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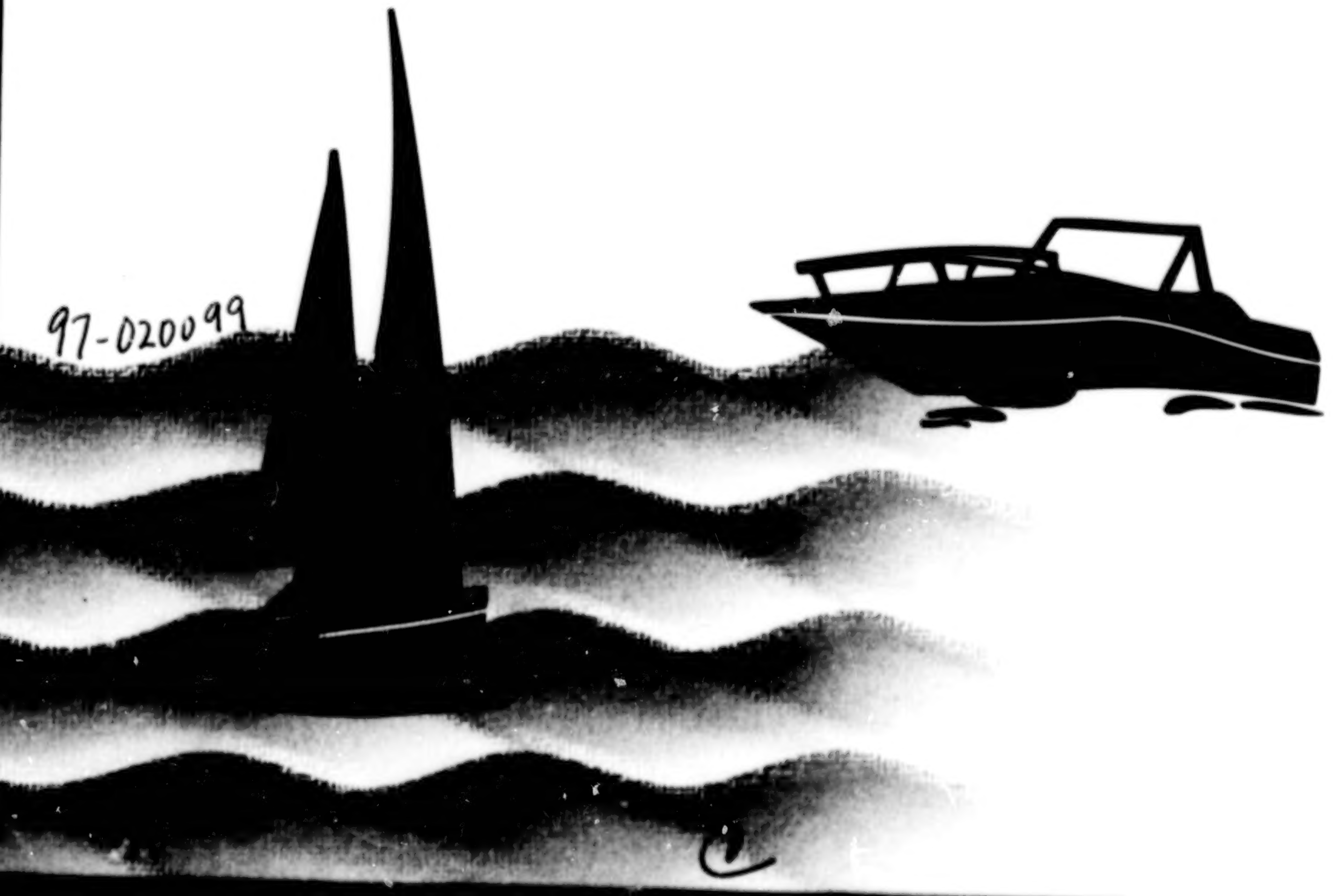
U.S. FISH AND WILDLIFE SERVICE

THE CLEAN VESSEL ACT OF 1992 PUMPOUT GRANT PROGRAM

KEEP OUR
WATER CLEAN–
USE PUMPOUTS

American Success Stories

97-020099



U.S. Fish and Wildlife Service

The Clean Vessel Act of 1992
Pumpout Grant Program
AMERICAN SUCCESS STORIES

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Acknowledgements

Those Who Helped

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Many of the articles in this report were contributed by the US Fish and Wildlife Service Federal Aid Regional Offices and the State Clean Vessel Act (CVA) coordinators and they each deserve special thanks. Their names are listed in Appendix A.

The extraordinarily fine cooperation, enthusiasm, technical assistance and editing of Bob Pacific was extremely valuable to the author and Bob is deserving of highest recognition for CVA program excellence.

But the final and greatest recognition goes to all the unnamed and often unseen individuals in the Federal and State Governments, the marina/boating industry, and the boating public who are converting the Clean Vessel Act into real pumpout services for the use and benefit of all boaters. Their combined successes will ultimately result in cleaner boating waters for all Americans and our Nation's wildlife and fishery.

Marine Environmental Education Foundation (MEEF)

MEEF was incorporated as a national nonprofit [501(c)3] organization in mid 1994, to bring together national experts to develop Clean Marina educational programs and research on marine environmental issues.

MEEF's goal is to create and present programs which will ultimately help result in cleaner waters for the boating public.

These specialists come from a consortium of environmental programs from marine business organizations and coastal environmental groups, including representatives of:

- Advisory Council of Marine Associations
- American Boat Builders & Repairers Association
- Center for Marine Conservation
- International Marina Institute
- Marina Operators Association of America
- Marine Retailers Association of America
- Marine Trade Association of New Jersey
- National Boating Federation
- New Jersey Sea Grant Marine Advisory Service
- University of Rhode Island Sea Grant Coastal Resources Center

The Author

Considered one of the nation's best known advocates for clean marinas, Neil W. Ross has been organizing, studying, training, and writing about that industry for over 27 years.

He started at the University of Rhode Island Sea Grant program for 18 years. Then he cofounded the International Marina Institute and was its first President through 1993. Since then Ross has run his own consulting practice from Kingston, RI. He is the current President of MEEF.

His 1996 study, Clean Marinas—Clear Value, was published by the US EPA, and is considered a breakthrough report documenting that clean water and marina business are good for each other.

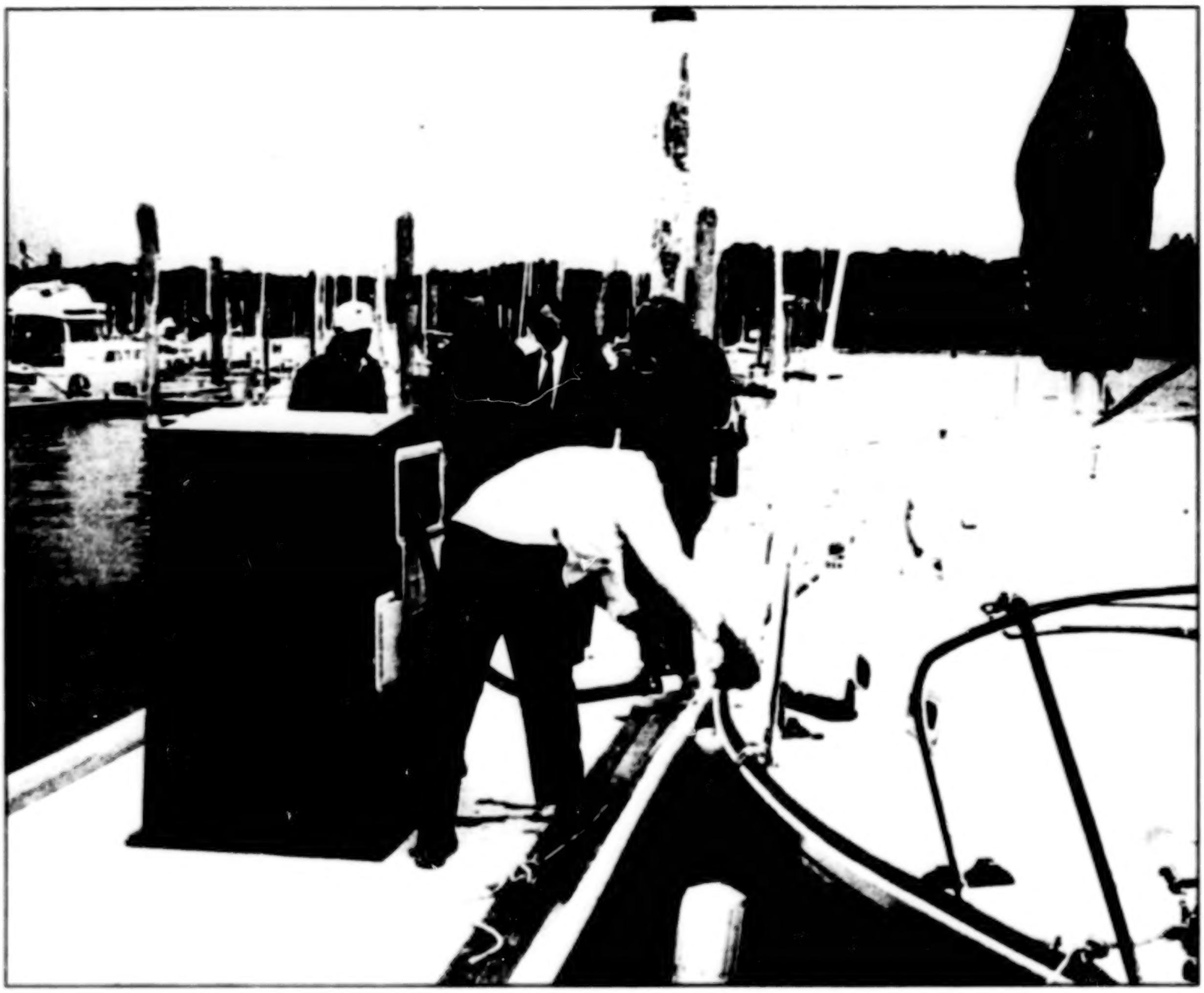

Photo: Warwick, RI - **Apponaug Harbor Marina** owner John Dickerson demonstrated his new CVA funded pumpout during a dedication ceremony in 1994. City of Warwick Mayor Lincoln Chafee (with jacket and tie) watched the operation with interest beside Rhode Island's CVA coordinator Joseph Migliore (standing to Mayor's right). This was the first of seven marina CVA pumpouts installed in that City's coves.

(Photo by Neil Ross)

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Photo: Maryland - Harborview Marina, at Baltimore's Inner Harbor, takes its new CVA funded, portable pumpout to a large yacht to empty its holding tank.

(Photo supplied by EMP Industries)

Chapter 1.

Introduction

Clean Vessel Act of 1992

Since the Federal Clean Vessel Act of 1992 (CVA) launched a Federal Grant Program through the States starting in 1993, the emphasis has been on construction of new pumpout and dump station facilities, renovation of existing ones, and in educational, outreach and public awareness programs, both at the State and national levels.

The funds for the CVA program come from boaters and anglers through excise taxes paid on fishing tackle and motorboat fuels under the US Fish and Wildlife Service Federal Aid in Sportfish Restoration Program, better known by the boating industry as the Wallop-Breaux fund.

Great emphasis has been placed on establishing partnerships with private marinas, manufacturers and boating and fishing groups. Factors, such as public awareness, partnerships and outreach efforts, which had been key to the realization and success of the CVA grant program should continue.

When Congress approved the Act in 1992, they required coastal States to assess how many additional boat sewage removal facilities they may need and to develop and implement a plan to meet those needs.

Inland States were not required to do this study or plan. Congress recognized that the largest numbers of bigger boats with onboard toilets are in the coastal waters and that the salt water areas in particular had very few pumpout stations available.

Another interesting aspect of the Act, which makes it different from many other Federal grant programs, is that since the majority of marina facilities in the United States are privately owned or operated, Congress allowed and encouraged the States to provide CVA grants to private businesses.

Forty-nine States and Territories are participating in the CVA grant program. Thirty-seven States jumped into the CVA program during Fiscal Year (FY) 93 to FY94, and have made great progress. Seven more joined in FY95, with three more in FY96. Two more are just receiving their first CVA money in FY97.

Only six States and two Territories have chosen not to participate in the program yet, but several of these have indicated they will submit proposals if the CVA authorization is extended.

The distribution of CVA grants is seen in Table 1. US Fish and Wildlife Service CVA Pumpout Grants, which lists where the $37,553,749 was allocated between FY93 to FY97.

How Is the CVA Program Doing?

Very well, indeed!

But the CVA program should be viewed realistically as a work in progress with much yet to be done.

Not every State reported target goals. This was because the inland, non coastal States are not required to prepare a plan and set goals, and a few late joining coastal States and Territories are just completing their initial study and plan. If every State could have reported target goals, the total would certainly be much higher. The author estimates that the national goal could increase by 40% more pumpout stations and 80% more dump stations.

The 49 participating States and Territories reported to this study that they have installed 1,326 of their coastal goals of over 4,000 pumpout stations, and 475 of their over 2,000 dump stations goals as of the end of FY96 on September 30, 1996.

The CVA program estimates 600 pumpout and 800 dump stations will be built in FY97.

The Clean Vessel Act authorizes grants to private as well as public marinas. On the average, States reported 30% of their grants went to public or government run facilities, with 70% to private operations.

Only Alaska and Hawaii reported 100% of the grants went to public facilities. While Hawaii reported its first installation was to a public marina. there are a number of private marinas around the Islands which might participate as their program grows. In Alaska, however, all harbors and nearly all marinas are run by municipal governments.

Ten States and Territories report 100% of their CVA grants going to private facilities, including Arizona, Georgia, Montana, Nevada, New Hampshire, New Mexico, Oklahoma, Puerto Rico, South Dakota, and the Virgin Islands.

As for distribution of Federal CVA grants by location, 83% of the grants went to facilities on coastal waters and 17% to inland waters.

On the average, the States and Territories reported estimates that 66% of recreational boat fleets with MSD (marine sanitation device) toilets now have pumpout and dump stations nearby.

Three States reported 100% of their fleet theoretically can get pumpout service based on the formulas used in the CVA grant program. However they each add that not all boats have pumpouts reasonably accessible, that old equipment needs replacing, and many inland waterbodies have few or no sewage control services available. Frequently, the minimal number of pumpouts required is not adequate, or that the service at another marina is less than optimal.

During the process of gathering information for this national report, the author had opportunity to discuss the CVA program with nearly a hundred professionals across America. They were uniformly very pleased with the CVA program, and felt the money was largely being spent to purchase pumpout equipment as intended. All who mentioned the subject hoped that the CVA program would be reauthorized by Congress.

The CVA program coordinators in most States indicated pleasant surprise at how interest was growing among marina managers, particularly in the private sector.

The private industry representatives were overwhelmingly amazed and pleased that they could really get grants which actually helped them to take action to keep their boating waters clean.

Marina managers all reported that boater demand for pumpout use was increasing and peer pressure among boaters to avoid overboard discharge was growing. Their outlook is for continued increase in pumpout usage.

It is now safe to say that the Catch-22 situation— where boaters did not use holding tanks because there were not enough pumpouts available, and the marina owners did not buy and install the equipment because the demand was so low—is changing in those areas where the CVA funds have been spent. The tide is definitely turning in favor of clean water and better boating.

The CVA program's clear successes are the benefits of the public's Sportfish Restoration tax dollars in action. But the national CVA goal will not be achieved until pumpout and dump stations are reasonably accessible to all boaters who need the service.

Table 1. US Fish and Wildlife Service CVA Pumpout Grants

Clean Vessel Act of 1992 Program, US Fish and Wildlife Service

Grant periods FY93 through FY97

State/Territory	*FY 1993 + 94*	*FY 1995*	*FY 1996*	*FY 1997*	*Grant Total*	*National Share*
Alabama	$218,106	$144,800	$130,000	$92,000	$584,906	1.56%
Alaska	412,500				$412,500	1.10%
American Samoa			50,000		$50,000	0.13%
Arizona				36,000	$36,000	0.10%
Arkansas		47,400	48,000	29,000	$124,400	0.33%
California	636,000	359,500	458,000	761,000	$2,214,500	5.89%
Colorado	87,943	19,500	50,000		$157,443	0.42%
Connecticut	120,000	397,200	594,000	586,000	$1,697,200	4.51%
Delaware	70,500	82,100			$152,600	0.41%
Florida	937,500	578,123	676,000	908,000	$3,099,623	8.24%
Georgia		10,954	118,000	131,000	$259,954	0.69%
Guam				107,000	$107,000	0.28%
Hawaii	623,000				$623,000	1.66%
Idaho	41,500	19,800	50,000	1,000	$112,300	0.30%
Illinois	65,096		107,000	48,000	$220,096	0.59%
Indiana	48,156	104,700	152,000	96,000	$400,856	1.07%
Kentucky	212,051	67,300	17,000	36,000	$332,351	0.88%
Louisiana	109,453	204,200	256,000	205,000	$774,653	2.06%
Maine	92,250		166,000		$258,250	0.69%
Maryland	1,463,289	578,100	940,000	672,000	$3,653,389	9.72%
Massachusetts	1,557,975	578,100	990,000	665,000	$3,791,075	10.08%
Michigan	376,500	163,100	108,000		$647,600	1.72%
Minnesota	100,000	60,800	50,000	72,000	$282,800	0.75%
Mississippi	37,500	83,700	55,000	227,000	$403,200	1.07%
Missouri			32,000	36,000	$68,000	0.18%
Montana		19,300			$19,300	0.05%
Nebraska		76,500			$76,500	0.20%
Nevada			12,000	36,000	$48,000	0.13%
New Hampshire		27,848		92,000	$119,848	0.32%
New Jersey	200,000	507,600	940,000	745,000	$2,392,600	6.36%
New Mexico	90,000				$90,000	0.24%
New York	1,000,000	507,600	980,000	981,000	$3,468,600	9.22%
North Carolina	206,250		51,000	183,000	$440,250	1.17%
Ohio		102,930			$102,930	0.27%
Oklahoma		30,300	29,000	23,000	$82,300	0.22%
Oregon	698,875	314,300	295,000	324,000	$1,632,175	4.34%
Pennsylvania	99,324	107,200	33,000	80,000	$319,524	0.85%
Puerto Rico	13,000	76,500	114,000	476,000	$679,500	1.81%
Rhode Island	362,890	158,100			$520,990	1.39%
South Carolina	125,100	267,900	248,000	371,000	$1,012,000	2.69%
South Dakota	30,000				$30,000	0.08%
Tennessee	91,898	252,400	98,000	160,000	$602,298	1.60%
Texas	224,625	317,300		104,000	$645,925	1.72%
Utah	419,400			19,000	$438,400	1.17%
Virgin Islands	16,000	25,000		90,000	$131,000	0.35%
Virginia	122,663	163,300	814,000	385,000	$1,484,963	3.95%
Washington	450,000	569,100	669,000	587,000	$2,275,100	6.05%
Washington, DC	120,000	34,400			$154,400	0.41%
Wisconsin	247,500	19,950	70,000	36,000	$373,450	0.95%
National Total	**$11,726,844**	**$7,876,905**	**$9,400,000**	**$9,400,000**	**$37,603,749**	**100.00%**

Notes:
- FY = Federal Budget Year, starts Oct. 1st before year listed, e.g., FY 1996 runs from 10/1/95 to 9/30/96
- Blank space indicates no CVA funds requested or granted that year.
- States/territories unlisted have not yet participated in CVA Pumpout Grant Program.

This Report

The US Fish and Wildlife Service wanted to assess the relative national success of the CVA program and contracted with the Marine Environmental Education Foundation, Inc. (MEEF) to prepare this report. MEEF had its President Neil W. Ross do the project and write this national overview.

The accomplishments of the CVA program can be observed and measured in a variety of ways, such as the number of facilities built or renovated.

MEEF's researcher asked eight basic questions to identify success stories which respond to the Clean Vessel Act's goals.

- Are pumpout and dump stations being built?
- Has the volume of boat sewage pumped increased significantly?
- Did water quality improve?
- Have any sensitive shellfish beds opened?
- What creative public education programs have resulted?
- Were any attitudes changed in favor of clean water?
- What program partnerships were created?
- Did marinas find pumpouts cost effective?
- Have the number of no discharge areas increased?

The success stories listed in the nine chapters of this report are only examples. It is obvious that there are many more success stories than the sample written here.

From conversations with government and industry professionals working on the pumpout program, it is clear that they are pleased with what has happened thus far, but are even more optimistic about what more can be accomplished.

These stories were compiled by MEEF from meeting minutes, newsletters, letters, interviews, and published reports provided by the State and Federal CVA coordinators, marina managers, industry representatives, pumpout manufacturers and educators.

How To Use This Report

This report contains many short and some longer examples of how the CVA objectives are being met across the country. Each story is a different example on both fresh and salt water bodies. Most describe accomplishments with some describing plans and hopes, especially if the Clean Vessel Act is reauthorized.

1. Read the report and discover different examples of CVA successes. Look for programs and ideas which can be easily adapted to your facility or area.

2. Catch some of the enthusiasm which the CVA program has generated. We've seen many examples of facility managers, once deciding to use pumpouts, also adopting other clean marina practices. Time and again, they go well beyond the basics and catch the clean water spirit as they see how it does improve their boating business.

3. Select examples to use in your newsletters or training sessions.

4. Help spread the word among marina owners and boating public that the CVA program is clearly successful, and that grant applications are still available in many States.

5. Encourage boaters to use holding tanks and be pumped out frequently.

6. Tell boaters to dial 1-800-ASK-FISH to find their nearest pumpout station.

Helping to clean the environment helps us all to enjoy better boating and fishing. And using pumpouts gives us each a stake in improving America's water quality. It is the right thing to do—and we know it.

Keep Our
Water Clean–
Use Pumpouts

Chapter 2.

National Number of Pumpout Stations Increase

Introduction

Recognizing the need to improve clean water nationally, the Clean Vessel Act of 1992 resulted in a program administered by the US Fish and Wildlife Service which provides grants to States for the installation of pumpout and dump stations in marinas and other boating facilities.

The first measurement of the grant program success is the rapid increase in the number and distribution of pumpout equipment in boating waters. It is important to realize that not all States started at the same time issuing grants for pumpout equipment. A few States were able to give out their grants starting in 1994, most States were not able to give grants until 1995. A few began their grant program in 1996. And another few States and territories are planning to begin in 1997.

Most States use the 75/25 formula with the marina supplying the 25% match. However several States have been able to use their own funds as the match, thus giving 100% grants for pumpout facilities.

But those States which have been issuing grants for 2 or more years are having very good success at increasing pumpout availability. Prior to the CVA program, many inland fresh water bodies were declared no discharge by EPA and as a result pumpouts have generally gained wider acceptance and use than in the salt water States which lagged behind. The demand for CVA funds inland has included many requests for replacement and expansion of existing pumpout systems, whereas the salt water States generally have been installing new pumpouts for the first time.

Pumpout boats bring CVA service to many more vessels

The problem facing many States and communities is how to provide pumpout service to many thousands of boats kept in transient visitor anchorages, at private home docks and in long term mooring basins. CVA funded pumpout boats have proven successful in: Alabama, Idaho, Indiana, Kentucky, Maryland, Maine, Massachusetts, Michigan, Minnesota, New York, North Carolina, Rhode Island, Tennessee and Utah. New Mexico has two pumpout boats but paid for them completely with State matching funds. Massachusetts leads the nation with 47 pumpout boats. The States of Idaho, Minnesota, Utah and Washington have made CVA funded floating restrooms with pumpout service useful in remote areas and lakes. Utah has the most with 8 floating barge restrooms, particularly important for people on trailerable boats typically not having onboard toilets.

Alaska expands pumpout service 850%

"Alaska has come a long way" from two pumpouts five years ago to the seventeen we have now, with two more expected to be built next year. Here in Juneau, we've had two fixed pumpouts since the mid-eighties, and we recently added two 16 ft. pumpout boats. The boats serve our customers on the high-density sport-fishing 'grounds', but also are used in partnership with the two major local private facilities adjacent to our northernmost public marina," wrote harbormaster Joe Graham, Port of Juneau.

"We replaced our old fixed units with CVA monies and the boats & associated equipment were also funded by CVA. While we do not maintain any documentation to support increased awareness and use, I do hear about it when any of the units are not functioning properly."

Table 2. National Distribution of Pumpout Stations Reported

Clean Vessel Act of 1992 Program, US Fish and Wildlife Service

Grant reports for periods FY93 through FY96

STATE or TERRITORY	FWS Region	Pumpouts Funded by Other Non-CVA	Pumpouts Funded with CVA	Pumpout Total
Alabama	4	6	30	36
Alaska	7	2	19	21
American Samoa	1		0	0
Arizona	2	12	0	12
Arkansas	4		6	6
California	1	130	61	191
Colorado	6		4	4
Connecticut	5	31	16	47
Delaware	5		8	8
Florida	4	118	85	203
Georgia	4	8	6	14
Hawaii	1	4	3	7
Idaho	1	17	5	22
Illinois	3	32	9	41
Indiana	3	19	21	40
Kentucky	4		13	13
Louisiana	4	8	1	9
Maine	5	12	21	33
Maryland	5	108	177	285
Massachusetts	5	38	93	131
Michigan	3	280	78	358
Minnesota	3	69	17	86
Mississippi	4		12	12
Missouri	3	40	4	44
Montana	6	3	6	9
Nebraska	6		3	3
Nevada	1	12	2	14
New Hampshire	5	20	2	22
New Jersey	5	50	30	80
New Mexico	2	4	7	11
New York	5	152	209	361
North Carolina	4	40	29	69
Ohio	3	104	17	121
Oklahoma	2		5	5
Oregon	1	11	18	29
Pennsylvania	5	19	22	41
Puerto Rico	4	0	3	3
Rhode Island	5	14	34	48
South Carolina	4	34	9	43
South Dakota	6	4	6	10
Tennessee	4	33	29	62
Texas	2	68	5	73
Utah	6		21	21
Virgin Islands	4	0	2	2
Virginia	5	483	111	594
Washington	1	80	39	119
Washington, DC	5	1	4	5
Wisconsin	3	48	26	74
National Totals		**2,114**	**1,326**	**3,440**
National Average		54	28	72
Nation's Largest		483	209	594
		Non CVA	CVA	Total

Table 3. National Distribution of Dump Stations Reported

Clean Vessel Act of 1992 Program, US Fish and Wildlife Service

Grant reports for periods FY93 through FY96

STATE or TERRITORY	FWS Region	Dump Stations Funded by Other Non-CVA	Dump Stations Funded with CVA	Dump Station Total
Alabama	4	0	0	0
Alaska	7		1	1
American Samoa	1		0	0
Arizona	2	50	0	50
Arkansas	4		1	1
California	1	20	12	32
Colorado	6		4	4
Connecticut	5	8	2	10
Delaware	5		0	0
Florida	4		3	3
Georgia	4	6	0	6
Hawaii	1	1	0	1
Idaho	1		1	1
Illinois	3		0	0
Indiana	3	1	1	2
Kentucky	4		0	0
Louisiana	4	2	4	6
Maine	5	0	1	1
Maryland	5		0	0
Massachusetts	5	0	17	17
Michigan	3	43	8	51
Minnesota	3	30	17	47
Mississippi	4		0	0
Missouri	3	20	4	24
Montana	6	0	0	0
Nebraska	6		3	3
Nevada	1		0	0
New Hampshire	5	1	0	1
New Jersey	5	19	8	27
New Mexico	2	0	0	0
New York	5	39	209	248
North Carolina	4	27	24	51
Ohio	3	12	1	13
Oklahoma	2		0	0
Oregon	1	4	13	17
Pennsylvania	5	21	1	22
Puerto Rico	4	0	1	1
Rhode Island	5	0	1	1
South Carolina	4	0	0	0
South Dakota	6	0	0	0
Tennessee	4		8	8
Texas	2		5	5
Utah	6		16	16
Virgin Islands	4	0	2	2
Virginia	5	309	107	416
Washington	1		0	0
Washington, DC	5		0	0
Wisconsin	3		0	0
	National Totals	**613**	**475**	**1,088**
	National Average	22	10	23
	Nation's Largest	309	209	416
		Non CVA	CVA	Total

Pumpout stations in Georgia's most populated coastal county jump 400%

Six total pumpout stations have been constructed since the beginning of Georgia's construction phase of the CVA program in Chatham and Bryan Counties. Previously there were 8 pumpouts operating coast wide, representing an increase of 63% more pumpout availability thanks to CVA funds, according to State information.

Chatham county is the most populated county on the Georgia coast with approximately 60% of the total registered recreational vessels with Type III MSDs. Previous to the CVA program, there was only one functional pumpout system available to service all those boats. Currently there are 5 pumpouts operating in the County, representing a 400% increase in availability.

Maryland makes sure small boats have dump stations too

Maryland has installed or replaced 177 pumpout facilities using CVA funds. All marinas that accept CVA/state funds for pumpouts must also obtain either a dump station or a wand attachment to service portable toilets. Most marinas are going with the wand.

Indiana has unmet inland demand for CVA grants

Indiana has been very aggressive under the CVA program with 21 pumpouts and 1 dump station funded with CVA grants, with 15 more applications pending. Virtually every coastal Indiana marina on Lake Michigan has been offered funds to install or upgrade their pumpouts.

However, with all Indiana inland lakes already no discharge areas, the amount of marina CVA funds available fall far short of demand.

Three States report 100% pumpout service availability in coastal waters

Michigan, Ohio and Rhode Island report that 100% of all their coastal recreational boats can get pumpout service.

Michigan has installed 78 pumpout and 8 dump stations funded with CVA grants. With these facilities it estimates that 100% of the 32,000 boats with toilets in the coastal waters have pumpout service available. This expansion was in response to direct mail contacts by Michigan DNR. Efforts were coordinated with the sheriff departments to notify area marinas of the CVA grant program and to provide grant applications to the marina owners.

Rhode Island has achieved Statewide installations with pumpouts available in every harbor and cove in the 'Ocean State'.

It must be recognized, however, that while these States report pumpout service is available to the coastal boats, that does not mean that the service is close by or convenient to all those boaters. The States indicated that an unmet need and demand for more pumpouts remains, and that old systems in many marinas need replacement. Also, the States of Michigan and Ohio found that many inland lakes and rivers have very few pumpouts to meet the boating need.

New York promotes pumpout stations

New York has built 209 pumpout and 209 dump station facilities with CVA funds, with another 170 applications pending. The state requires that every pumpout grant request includes a dump station for portable toilets. Of the CVA pumpout/dump stations funded, 83% are in coastal areas and 17% on inland waters.

The State estimates that pumpout service now reaches 68% of the State's fleet. Six CVA funded pumpout boats are used to service coastal anchorages and mooring basins, with five in Southampton, on Long Island.

Long Beach, California, erases wait for pumpouts

The City of Long Beach Marina has had six pumpout stations for over 25 years and were one of the early leaders installing that service for boaters. However over the years the equipment became tired. Only three were still in use in 1995, and needed replacing. With 70% of the 3,800 boats kept in the City marina slips having holding tanks, and all of another 1,200 boats on private docks nearby, the 3 working pumpouts were too slow and inadequate.

"Boaters complained about having to wait in line for pumpouts," stated Doug Parsons, Superintendent of the Long Beach Marine Bureau. "They were unhappy with our pumpouts and often had to come back 3 to 4 times to get emptied."

"Thanks to the California CVA pumpout program grants, we replaced all the pumpouts, added a seventh, relocated them to better locations on the gangways, increasing accessibility. We enlarged the size of the hose and increased the suction of the new pumps."

"Now it takes about 3 minutes to empty a typical holding tank, versus 10 to 15 minutes before," Parsons continued. "Also hose clogging is now much less of a problem. We've had very good response by the boaters, and are pleased with the new systems."

Pumpouts are free and self-service at Long Beach Marina. Parsons expects to expand with 2 more pumpouts in the existing marina and will add pumpouts in two new boat basins being planned by the City.

Photo: One of the seven new CVA funded pumpout stations in **Long Beach Marina**. Self serve, faster and less maintenance shortens time for boaters to empty holding tanks. Sign on dock reads "Mooring for pump out only".
(Photo supplied by SeaLand Technology)

Tennessee promotes pumpout stations

Tennessee has more miles of navigable waterways than interstate highway miles. With over 700,000 acres of reservoirs, 19,000 miles of streams, boating is very popular and easily accessible to the State's over 300,000 registered boats, ranking it 16th in the nation and 3rd highest of any non-coastal or Great Lakes State. Over 43% of the State population participates in boating activities not related to hunting and fishing.

Approximately 230 marinas throughout Tennessee dock recreational vessels with holding tanks, with 18 of them on drinking water reservoirs designated no discharge lakes. Prior to the CVA program there were only 33 pumpouts available across the State. The CVA program has approved grants for 29 more marinas, with all expected to be operational before July 1997, another 10 to 15 are projected to be approved for FY97.

LaFollette Press –July 11, 1996:

> Protecting the environmental quality of Norris Lake is the goal of a recently announced government initiative.
>
> The Tennessee Valley Authority will soon establish a new and more restrictive policy to protect the shoreline of Norris Lake while the Tennessee Wildlife Resources Agency (TWRA) is set to start enforcing new sanitation regulations for lake marina operators and boat owners. ...
>
> This Saturday, July 13, the TWRA will start enforcing new provisions of the [State] Marine Sanitation Law.
>
> "I have been a strong supporter of this action," said Tom Stiner, Campbell County Executive. "I am thrilled they are going to start enforcing this law. This is important for maintaining our tourist industry and the health of county residents."
>
> Essentially, the regulations require marina operators to provide a sewage removal service or to contract for the service and require boat owners with installed bathrooms to have an approved marine sanitation device with a holding tank which stores sewage until disposal by a pumpout system, which must be operated by the marina or contractor.
>
> These provisions are for lakes in which overboard discharge of waste is prohibited, such as Norris, a landlocked reservoir.
>
> Betsy Woods, Clean Vessels and Water Director for TWRA, reports that four marinas on Norris Lake are currently participating in the Tennessee Clean Vessel Act Program.

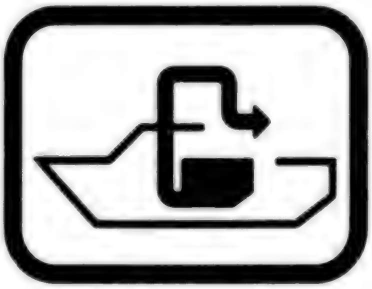
Oregon has floating restroom service

Oregon has installed 18 pumpout and 13 dump stations funded with CVA grants. Among these Oregon also has 3 floating restrooms used primarily by small boats using inland and coastal waters.

Inland Utah gets pumpouts on lakes

Utah has installed 21 pumpout and 18 dump stations funded with CVA grants. One set of pumpout and dump stations are on Antelope Island on Great Salt Lake.

Another twelve pumpouts and seventeen dump stations are operating on Lake Powell at concessionaire marinas and launch ramps, plus eight floating pumpout/dump station barges sited in popular anchorages for the houseboats. One pumpout boat was funded to service the barges around Lake Powell.



First pumpouts in the entire Caribbean region

The CVA program has funded the first and only pumpouts available in the popular tourist islands of the Caribbean. This will help assure an excellent environmental quality of boating in the US Territorial waters.

Puerto Rico - The island of Puerto Rico has installed 3 pumpouts and 1 dump station funded with CVA grants, with 6 more applications pending.

The Puerto Rico CVA program can be credited with funding the first pumpouts available in the entire Caribbean Sea at **Puerto del Rey Marina** in Fajardo. That first pumpout went into operation in 1995, and has expanded in 1996 with a dump station and 2 other pumpouts at the same marina. Puerto del Rey Marina, with 700 slips and 450 dry racks, is the largest in the Caribbean.

Now pumpout and dump stations are available and rapidly expanding around Puerto Rico into the major marina areas. The Puerto Rico CVA advisory committee is considering eventually applying for a no discharge area.

Virgin Islands - The US Virgin Islands has installed 2 pumpout and 2 dump stations funded with CVA grants, with one more application pending.

Prior to the CVA program there were no pumpouts available in any of the highly popular US and British Virgin Islands. All waste has previously gone directly overboard.

In early 1997, two pumpout boats are planned to go into service reaching all the liveaboard and transient anchorages in the coves around the three major islands in the USVI.

British Virgin Islands - An international spin-off, now under consideration, may well be the installation of the first pumpouts in the neighboring British Virgin Islands, and perhaps beyond.

As the successes of the American CVA pumpout grant programs in Puerto Rico and the US Virgin Islands gain wider recognition, the American program success is being studied by more and more nations also seeking to solve their boat sewage problems.

The US CVA model has likely started a wave of interest for pumpouts and no discharge at the other nations around the Caribbean Sea, and beyond.

Chapter 3.

National Pumpout Use Increases, Sewage Discharge Decreases

Introduction

In every waterbody with pumpout and dump stations, more and more Americans are sending their holding tank waste ashore for proper treatment. Every gallon of sewage pumped out is one less gallon which could have been discharged into boating waters.

Pumpout maintenance program gives Maryland logs showing increased use

Marinas with pumpouts in Maryland are invited to participate in a State run operations and maintenance program. Participating facilities receive a fixed amount maintenance grant in return for sending pumpout usage logs to the State.

In 1994, 31 marinas out of 85 facilities with pumpouts each received $600 to keep the log; 81 out of 125 participated in 1995 for $700 each; and by 1996 the number expanded to 123 out of 174 marinas receiving $500 each.

Based on the large sample during those years, the State was able to project the total number of pumpouts done and estimate the number of gallons collected. For example, in 1994 the Statewide estimates were 12,816 pumpouts which collected 176,462 gallons of sewage. By 1995 the estimated numbers increased to 17,731 pumpouts removing 301,301 gallons of sewage. (The 1996 numbers are not yet available.) a 35% increase in number of pumpouts and a 70% increase in sewage volume not entering Maryland coastal waters.

Some examples of marinas with particular CVA success:

Haven Harbor Marina, in Rock Hall, used CVA/State funds to both purchase a new pumpout system and to convert an old system to become portable. Even with a number of other pumpout facilities located nearby, during the 1995 boating season the marina conducted 502 pumpouts.

Herrington Harbour South Marina, in Friendship, did 403 pumpouts in 1995. So outstanding is Herrington Harbour operations and environment, that the marina was named the 1996 Marina of the Year by the Marina Dock Age trade magazine.

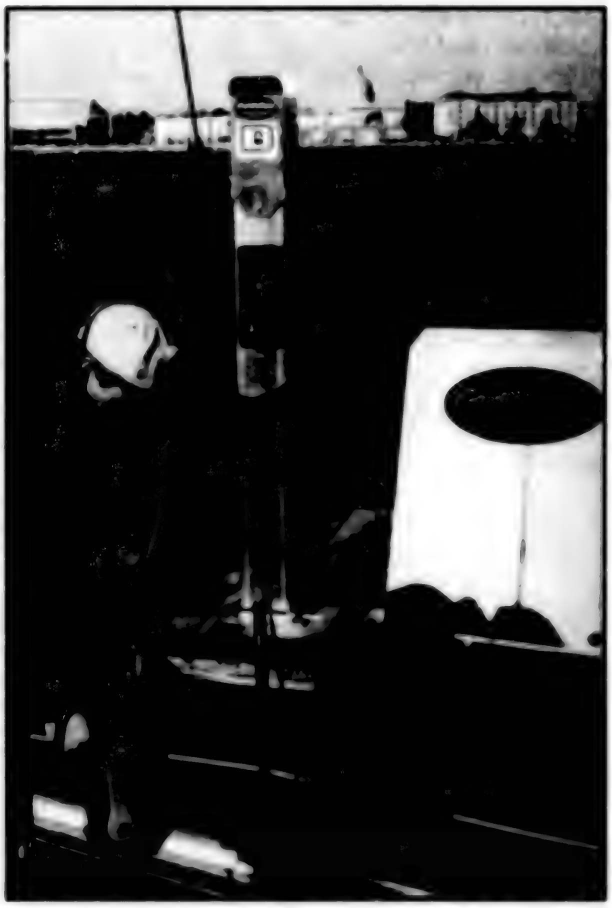


Photo: **Maryland Yacht Club** uses its new CVA funded pumpout in Spa Creek, Annapolis. US Naval Academy is in background.
(Photo supplied by Captain Clean Pumpout Systems)

Massachusetts also tracks pumpout volume

Massachusetts has installed 93 pumpout facilities and 17 dump stations with CVA funds, with another 3 applications pending. The grants include 47 pumpout boats shared by different embayments and marinas to service the small marinas, yacht clubs and large mooring fields.

Massachusetts is keeping track of gallons of sewage pumped from boats. In 1995 about 12,000 boats were pumped out. In 1996 the State reports that 17,035 boats were pumped Statewide and estimates that 317,900 gallons of boat sewage did not go into bays, harbors and coves, according to CVA coordinator Buell Hollister, MA Department of Fisheries, Wildlife and Environmental Law Enforcement. For 1996, an average of 18.7 gallons of sewage was pumped out per boat statewide.

The State reports a lot more marine radio traffic on Channel 9 requesting information about pumpout service locations.

Positive public reaction in New Hampshire

Public reaction to the new/upgraded pumpout facilities has been positive as evidenced by their increased use in New Hampshire's coastal marinas. Improvements in water quality as a result of the increased availability and use of pumpouts is anticipated, and is especially critical given marina proximity to sensitive shellfish areas which are priority waters in coastal towns of New Hampshire.

Service much appreciated on inland Oregon lake

Oregon has installed 18 pumpout and 13 dump stations funded with CVA grants. **Courthouse Dock**, a public transient tie-up dock on inland waters near a boat-in marine park, was the first CVA public pumpout and dump station in Oregon. It reports heavy seasonal use, much appreciated by boaters.

Pumpout use increases 350% in North Carolina

North Carolina has installed 29 pumpout and 24 dump stations funded with CVA grants, with 3 more applications pending. The State reports a 350% increase in pumpout use last year. Eleven of the pumpouts were installed in the Albemarle-Pamlico Sounds region, one of the nation's largest estuary system, designated Estuary of National Significance.

During July and September 1996, two major hurricanes hit the central and southern coasts of North Carolina with much damage to marinas. Some CVA pumpout systems were destroyed. The State has authorized those marinas which had received CVA grants previously, to go ahead and rebuild their pumpouts and be reimbursed.

Missouri's contract requires prepayment to encourage use

Missouri has written agreements with each public and private marina receiving a CVA grant which includes a unique prepayment condition to encourage pumpout use. Each marina agrees "to include charges [$5 each] for three uses of the pumpout for vessels 26 feet or longer, or three uses of the dump station for vessels under 26 feet, in any annual or seasonal docking or mooring contracts initiated after the date of this agreement. Vessels without toilet facilities are specifically exempted from this provision."

The marinas report that the $15 annual pumpout fee has caused no problems, but has resulted in a positive response like "since I paid for pumpouts, I will use them." And more pumpouts are done each year.

Nantucket's largest marina sets the nation's annual pumpout record at one facility

Massachusetts' off shore **Nantucket Boat Basin** is a private 242 slip fixed pier marina with three main docks and equipped with two fixed pumpout stations and sewer connections every 75 feet throughout the marina. In 1996, the Boat Basin pumped approximately 26,500 gallons of sewage — up 200% from their start in 1988.

Nantucket Boat Basin started offering pumpouts in 1988 at a cost of $10.00 and as an additional service to customers. In the early years they pumped approximately 8,000 to 10,000 gallons per year. All the below pier sewer lines are gravity fed to the head of each dock which has an inground 1,400 gallon holding tank. Automatic float switches in the tanks dispense the sewage directly into the town sewer system.

Since 1991, in cooperation with the Nantucket's Harbormaster and the Marine Department, pumpouts have been offered free and a second pumpout station was added. By 1992, Nantucket Harbor met the criteria and was designated a Federal no discharge area.

This system allows all boats to be pumped out in its slip with two portable pumps purchased with Federal CVA grants from the State, one of which is mounted on a cart and towed behind a golf cart all over the fixed dock system. In the boating season, the Boat Basin has two employees working on pumpouts 8 hours a day, 7 days a week. On the average, they do 12 to 15 pumpouts per day.

They can pump out any boat from small sailboats with portable toilets up to Feadships with 600 gallon tanks. Primarily the basin services larger power yachts which visit Nantucket for an extended amount of time. The largest vessel they pump out is a 250 foot cruise ship.

Marina manager George Bassett Jr. has learned over the years about how much holding tank capacity most boats have just from their size and type. This helps him know which boats need more frequent pumping.

For example, sailboats in the 30'-45' size range usually have a holding tank with a 15 to 30 gallon capacity.

Photo: **Nantucket Boat Basin**'s pumpout cart towed by its "Club Car" to each slip. *(Photo supplied by Nantucket Boat Basin)*

Powerboats arriving at Nantucket Boat Basin generally have more water using fixtures and larger holding tanks than do sailboats. For example, powerboats between 30'-42' usually have tanks with 30 to 60 gallon capacity; 42'-65' boats have 30 to 150 gallon tanks; 65'-80' have 150 to 300 gallons; while boats over 100' have 300+ gallon tanks.

"Because customers are so upset if we are late getting to their boat, we now will pump their boat without them on board," Bassett said. "All they have to do is leave it open. This has relieved a lot of the impatient customers. We have found no real negatives with our pumpout system."

"We have also created a partnership with the Harbormaster and the Marine Department," explained Bassett. "Through this collaboration we have helped to educate the public, improve our waters, and for the past three years, benefited from the Federal CVA grant. The almost $14,000 received from the government has helped us replace older equipment and keep our system fully maintained and operational."

"I would be remiss not to point out that Nantucket's other major industry (other than travel and tourism) is the shellfish industry." Bassett proudly said, "In our harbor is an operating aquaculture farm and an estimated $4 million a year bay scallop industry so it is extremely important that the Boat Basin do more than its fair share to keep the waters clean."

Two private marinas in New Jersey do well with coastal pumpouts

Seaview Harbor Marina includes two private dockominium facilities with pumpouts bought in 1995 with CVA funds. Sea View's **High Bar Harbor Yacht Club** has 300 slips and pumps 1,000 gallons per week of sewage in the peak season. **Barnegat Light Marine** has 175 slips and pumps out about half that amount. The average size boat at both facilities is 45'.

"Both our marinas have 'no discharge' clauses in our slip contracts and offer the service free to slip holders," said Joe Steward, Executive Director. "We charge $5.00 to all others. In 1996, we averaged 45 to 50 boats pumped per week. With our pumps portable, we go to the slip and do pumpouts on three weekdays. All the boat owner needs to do is let us know a pumpout is needed and we do it. We make pumping out very convenient. There is no reason for them not to use our service."

All Seasons Marina, in Marmora, New Jersey, inaugurated a new vacuum type pumpout service on its fuel dock in late August 1996. Of the cost, 75% was paid for with a CVA grant through the State of New Jersey. Owner Ralph Dilks reports, "There were as many pumpouts done over the next 30 days as had been done in the previous three years with a portable pumpout located on the inside of the marina. Our marina charges $5 per pumpout, but customers don't ask 'How much?' They just say, 'Pump it out'."

Previous to the grant, All Seasons had charged $45 per pumpout and obviously had few takers. That higher fee represented the very high costs to the marina for providing pumpout service.

Dilks added, "I think that for my State to do this, it is a great thing. This program really works. However, since it costs me $0.11 per gallon to have sewage removed from my big holding tank, the income still does not cover the costs. By having the pumpout now available on the fuel dock, we can easily service more boats traveling the Intracoastal Waterway."

All Seasons Marina's pumpout success demonstrates that location is very important. Location of the marina on the Intracoastal Waterway assures a good traffic flow. Location of the pumpout service on the fuel dock makes it convenient to do while fueling.

Pennsylvania finds cleaner water as pumpouts increase

Pennsylvania has installed 22 pumpout and one dump station funded with CVA grants, with 7 more applications pending.

Presque Isle Yacht Club opened its CVA funded pumpout station in mid August 1995. During that month it collected 1,009 gallons of sewage from 54 boats. During the summer of 1996, 2,446 gallons of sewage was pumped out of 125 boats.

Improvement of water quality has been noticed and favorable comments have been received from the public.

Baum's Cove Marina, after using their pumpout in 1996, also noticed that their Cove appeared much cleaner which should result in improved water quality reaching the Delaware River.

On Sunday evenings, it is especially evident that less people are illegally dumping their waste overboard. During the 1996 boating season, Baum's did 136 pumpouts, disposing of approximately 1,700 gallons of wastewater during this first season of service.

Rhode Island boaters use holding tanks appropriately

Rhode Island has installed 34 pumpouts and one dump station funded with CVA grants, with 7 more applications pending by the end of FY96. The State estimates that 100% of the 6,910 boats with toilets are now serviced by pumpouts available in every harbor and cove in the 'Ocean State'.

Joseph Migliore, CVA coordinator for Rhode Island DEM, reported that "**Light House Marina** offers free pumpouts with a minimum purchase of fuel," and "**Pirates Cove Marina** has reported heavy use during the 1996 winter haul-out season."

Migliore believes, "These are good signs that Rhode Island boaters are using their Type III MSDs appropriately."

Clearwater Florida brings pumpout to the slips

The national trade magazine Marina Dock Age featured the **Clearwater Municipal Marina** in their September/October 1996 issue.

Sometimes dreams do come true. Such was the case for Clearwater Municipal Marina, Clearwater, FL, where a 1990 idea for pumpouts at every slip became a reality in late 1995. Now every boater at this city-owned marina can pumpout out with ease and without cost.

"When we rebuilt the docks back then, we designed them with space for lines running underneath for a slipside pumpout system," said Bill Held, harbormaster for the City of Clearwater, FL, and manager of the marina. "We just didn't expect that we would be able to do it this soon."

With a CVA grant the facility installed a vacuum type pump to service each of the 120 boats in their slips. "We were one of the first marinas in Florida to get one of these grants," Held said. "We're very proud of what we've accomplished with it. It really makes all the difference. There is just no reason not to pump out your boat in Clearwater now."

"Its really is a neat system," he said. "You just connect the hose to the boat, then to the valve at your slip, throw the valve and, whoosh, it's gone."

If you think about all the boaters out there, you have to wonder what's happening to all that sewage," Held said. "Because, as we all know, a boat 26 feet in length has to have a toilet. If it has a toilet, it has to have a holding tank or a marine sanitation device. And that material has to be properly disposed of. We felt that if we put this system in and had it as a free service, then boaters would take advantage of it. Then you'd have the stuff going into the sewer system and not into the harbor."

(Reprinted with permission)

Chapter 4.

Water Quality Is Improving as a Result of Pumpout Use

Introduction

The greatest public concern about untreated sewage discharge is that the public health will be at risk from either direct contact with disease organisms, drinking contaminated water, or eating viral infected shellfish. The general way to measure untreated sewage contamination is to test for Escherichia coli [E. coli, or generalized as fecal coliform] as the indicator bacteria.

The US Public Health Service standards require closure for shellfishing when fecal coliform counts go above the geometric median or mean value of 14 fecal coliforms per hundred milliliters [14/100 ml], and US EPA recommends closure of swimming beaches when counts exceed the geometic mean or median value of 200 fecal coliforms per hundred milliliters [200/100 ml].

In many boating waters it is almost impossible to measure the amount of sewage contamination from boats largely because there are so many other sources of contamination nearby. The need for pumpout use in the past has been based more on common sense and health protection guidelines than on real measured problems.

Now, however, boating and marina waters in several States have been monitored in areas which are isolated from other contamination sources. And, once pumpout stations were used with the help of CVA grants, and no-discharge closures were enforced, dramatic improvement in water quality has been recorded.

Before the CVA program was started, Avalon Harbor on Catalina Island, in the Pacific Ocean off California, had been widely recognized for improved water quality resulting from their 1988 no discharge designation and very strict enforcement. Fecal coliform levels in the harbor dropped significantly from 16,000 to 23 per 100 milliliters [16,000/100 ml to 23/100 ml] after eliminating boat sewage discharge and other land based sources.

While not many studies of isolated boating harbors have been identified, there are a few which give further evidence that boat sewage contamination can be controlled and result in cleaner water.

Rhode Island's Block Island closed for 13 years, opened for shellfishing in 1996

In the Atlantic Ocean, 11 miles south of Rhode Island's coast lies tourist popular Block Island. Great Salt Pond is the largest harbor with 800 acres, four private marinas, public and private moorings, and a large public anchorage. The pond is a very productive shellfish and finfish habitat and has the highest classified quality saltwater in the State. Recreational and commercial shellfishing are important parts of life on Block Island.

During its summer season the boat population swells from less than 100 to an average 1,000 or more most weeks, jumping above 2,000 on holiday weekends. Block Island estimates that over 4,000 people live aboard boats at docks or anchored in Great Salt Pond on peak weekends. Other than the marinas (which are all connected to the town's sewer system) there is very little development around the pond which could be a source of sewage contamination. Boats were the primary source.

In 1973, the Rhode Island Department of Environmental Management (RI DEM) first closed shellfishing in the southern quarter of Great Salt Pond on Block Island, around the marinas during the summer season "due to the high potential for sewage contamination". In subsequent years half the pond was closed. In 1985 "high potential for fecal contamination, due to consistently high boat counts in the pond, was cited as the reason for complete closure" during summer months. Before and after the boating season, coliform counts drop so low that shellfishing is open from mid-October through mid-May.

Later that year RI DEM took bacteriological tests throughout the pond and around the marinas. Water circulation dye tests were conducted by the US Food and Drug Administration (FDA) which concluded that 4.6 tidal cycles would be required to completely disperse the waste from no more than 712 boats and still allow shellfishing in the northern part of the pond furthest away from the marinas. By 1992 all marinas were required to install pumpout stations, at their own expense, which were connected to the town sewer line, and the marina pumpout stations came on line the following year.

In 1991, a coliform testing program was initiated by the town at 14 stations in Great Salt Pond to assess water quality from June through September. It confirmed the earlier FDA tests and obtained highest coliform readings during July, coinciding with peak boat counts in the pond. As boating activity lessened, there was a corresponding reduction in bacteriological levels.

Also in 1991, the town began providing mobile pumpout vessel service to the anchored boats. This was the only pumpout available in Great Salt Pond that year. It serviced 627 boats and collected 12,890 gallons of sewage that summer. By 1993 the pumpout boat serviced 1,356 boats and collected 28,580 gallons of sewage.

Fecal coliform counts in 1992 showed that 11 of 14 samples exceeded the shellfish standard during a season with 12,923 visiting boats. This indicated that vessels were still discharging overboard, and greater education and enforcement were needed. Pumpouts at three marinas were hooked up to town sewers.

By 1993, only 6 of the 14 samples exceeded the standard while 17,548 boats visited Great Salt Pond that summer. Obviously 1993 was a turning point with extra education, stricter enforcement and additional pumpouts at 3 marinas. That year Great Salt Pond, on Block Island, was granted "no discharge" designation. Since then "Water clarity has been observed significantly cleaner since no discharge took affect," said RI CVA coordinator Joe Migliore.

"In 1995 we approved a $15,000 CVA grant for Block Island to purchase a second pumpout boat," Migliore said. "The complete boat, motor, trailer and pumpout cost $21,000, with $6,000 as local match. Lucky for us, just as the new boat arrived to start the season in June 1996, the old boat broke down and was out of commission all summer."

"With the new boat in use and demonstrated lower coliform counts, RI DEM was able to open the upper pond (opposite side away from marinas) to shellfishing all summer long. It will remain open so long as the water meets the shellfishing water quality criteria," said Migliore, who is also the State's shellfish water quality official. "Without the no discharge designation, pumpouts at the marinas, education, enforcement and the CVA funded pumpout boat, we would not have been able to open for shellfishing this year for the first time after 13 years of summer closure."

(See aerial photo of boat congestion on next page)

Photo: Rhode Island - Busy summer weekends have found Block Island's Great Salt Pond filled with up to 2,000 transient boats and over 4,000 people living aboard. Before pumpouts and strict no discharge enforcement, the very high bacteria counts forced summer closures of all shellfish beds. A CVA grant to Block Island allowed the State to open part of the pond to shellfishing in 1996 for the first time in 13 years.

(Photo supplied by RI DEM)

Connecticut marina improves water quality and raises scallops

Connecticut's **Cedar Island Marina**, in Clinton, received a $3,000 pumpout grant to add a second portable pump and 250-gallon holding tank for their fuel dock. It uses a large 3-inch-diameter diaphragm pump and hose to give us greater suction and faster speed. But the effect of pumpout service was measured in terms of a budding aquaculture project.

When the State of Connecticut turned down Cedar Island Marina's request for an additional 396 slips in 1988 because the expansion would be "destroying valuable marina life and habitat," little did anyone realize what positive effects would result after Jeffrey Shapiro accepted the challenge. "We decided to prove Connecticut wrong because I was convinced that the marina would improve—not destroy—the harbor's habitat. So I began hiring environmental consultants to test what was happening in and under the marina waters here." That effort has turned into a full-time marina ecology research laboratory with two full-time scientists. Thirteen technical reports were published and/or presented at professional estuarine and fisheries management conferences between 1989 and 1995.

Studies have included assessment and long-term monitoring of water quality (temperature, salinity, dissolved oxygen, E. coli), marina habitat, coastal birds, and finfish communities (e.g., juvenile winter flounder) in the marina, as compared to other natural habitats in Clinton Harbor.

"Testing has proven that our marina's waters have good oxygen levels and lower coliform counts than those at the nearby town beach. And heavy metals did not accumulate in scallops growing on the marina bottom," Jeffrey Shapiro stated. "Also, the periwinkle snails—a favorite food of winter flounder—are 20 times more abundant on the marina's dredged bottom than on the neighboring mud flats, which helps explain why we have a 10-times larger population of baby flounder under our docks than elsewhere in the harbor."

Studies in recent years—performed in cooperation with the marine laboratories of the National Marine Fisheries Service, Connecticut Department of Environmental Protection, and Connecticut Sea Grant—have focused on the marina habitat with special emphasis on its finfish nursery and shellfish aquaculture potential.

Noticing that many marine species grew more rapidly and remained healthy under marina docks and boats, Shapiro's lab staff started growing shellfish on trays suspended below the floating docks. Indeed, they grew faster than those placed in neighboring natural marsh flats and were just as safe for human consumption. Oysters, it was determined, could be grown to market size 1 year quicker under boat docks than outside the marina basin.

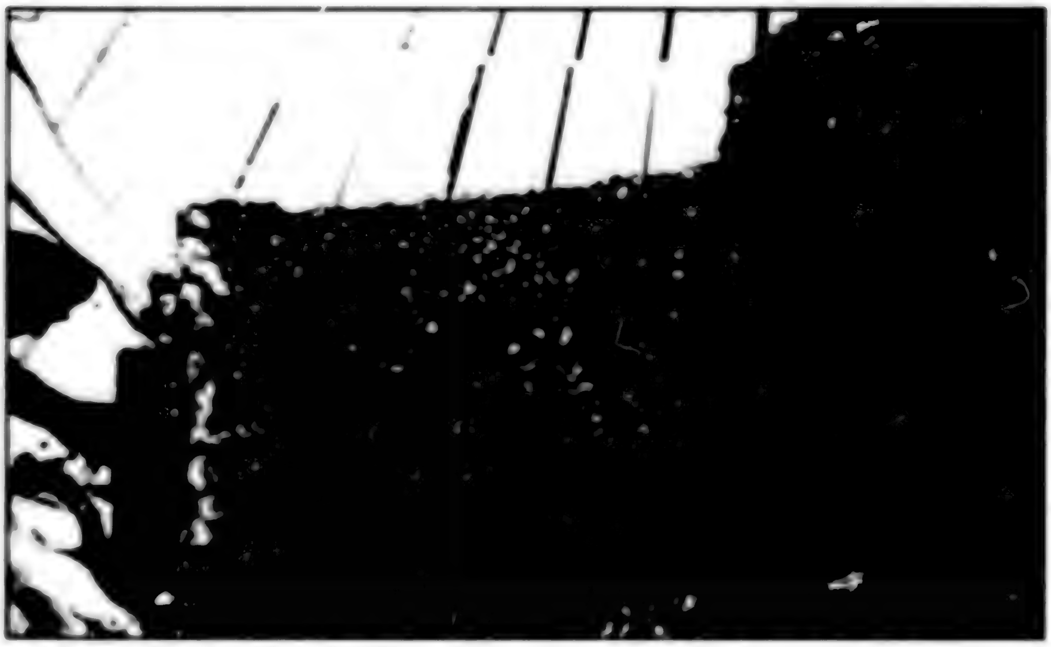
But two key factors inhibited use of marinas for oyster farming. First, US Food and Drug Administration standards require the filter-feeding oysters to be relocated to "clean" waters for several months of depuration before being eaten, and that extra handling is costly. Second, oysters take 4 years to grow to market size. Shapiro switched to another shellfish—bay scallops—and seems to have solved those problems.

In the spring of 1995, with some Connecticut Sea Grant funds and in-kind technical help from State and Federal marine biologists, **Cedar Island Marine Research Laboratory** bought 6,000 baby bay scallops, each about the diameter of a pencil (measured as 1,000 per liter).

The scallops were distributed inside plastic mesh bags placed into three-level wire cages hung beneath special 60-ft floating aquaculture docks designed and built by Cedar Island Marina. Deck trap doors open to allow access to each shellfish cage for easy removal. Every 4 weeks, each cage is pulled. The mesh bags are opened, and the scallops are counted, measured, lightly brushed to remove fouling growth, and separated into more bags, but with fewer scallops per bag to allow expanded growing space.

By late September, all the scallops had grown to market size averaging 3 inches each. Asked what the mortality rate had been, Shapiro's biologist answered, "I expected about a 30% death rate, but so far have lost 4—not percent—only 4 scallops, leaving 5,996 still alive and growing!" Aquaculture typically has higher survival rates than those in nature, often because of protection from predators, but Cedar Island's demonstration is truly remarkable.

Photo: The special wire cages used for scallop culture and hung under docks at Cedar Isle Marina in Clinton, CT.



"Now for the good part of why scallops are better than oysters here," said Shapiro. "When most shellfish are eaten, we consume all the meat and stomach, including whatever the animal's last meals included. But we only eat the large muscle of the scallop with the stomach thrown away. So the concerns about water quality do not apply the same way for scallops. Second, the scallop lives only one year from seed to maturity. So producing shellfish for market is largely done during one boating season."

"Today, each 3-inch scallop retails at 50¢, so if we sold this [1995] year's crop, we would gross $3,000.

However, because the seed, costing $72, was paid for with a Federal grant, we will turn them over to the University of Connecticut. But we will keep some of the biggest ones (which grew fastest) to become our breeding stock for 1996. And we will expand the number of scallops and cages. We are happy with it," Shapiro said. "Next year we're going to make money on it in a business way. And each year we'll select our fastest-growing scallops as breeders for the next generation, much as farmers select their best seed and animals for breeding."

Photos by Neil Ross

The Hartford Courant wrote:

> For 30 years there has been no commercial scallop fishery in the State. But within specially designed docks at Cedar Island Marina could be the seeds of a reborn commercial fishery.
>
> — September 23, 1995

With the Cedar Island Marina model, it appears clear that that boats, pumpouts, clean marina practices, and aquaculture can prosper. The CVA grant program helps facilitate the process.

Photo: Scallops grown in one season at marina.

Indiana uses pumpouts to control E. coli contamination

Trail Creek, a Lake Michigan waterway in Indiana, has had an E. coli problem for some time. While there are multiple sources, the Indiana DNR is working with surrounding municipalities and local boating commissions to decrease the coliform counts on Trail Creek, or at least eliminate recreational boating as a contributor.

The CVA program, if it is reauthorized to continue, has the ability to introduce education and funds toward increasing the number of pumpouts in the area to help reduce the pollution problem. The first two CVA grant applications are being processed for marinas along Trail Creek.

Photo: This CVA funded portable toilet dump station is typical of those used at launch ramps and marinas catering to small boats under 25'. **The Hammond Marina** is located at the Cal River mouth on Lake Michigan. This urban public facility prides itself in its cleanliness and flowers, and also purchased a mobile pumpout with a CVA 75% matching grant.

(Photo by Neil Ross)

Chapter 5.

Shellfish Beds Opened as a Result of CVA Program

Introduction

Under the regulations of the US Public Health Service, all interstate shipments of shellfish must certify that they are free of sewage contamination. Since almost all larger boats have toilet facilities, the Interstate Shellfish Sanitation Commission (ISSC) assumes that all marinas and areas where boats congregate have sewage contamination.

Generally, States have managed their shellfish resources by closing those bed which might potentially be contaminated from boat sewage. The ISSC standard does require closure for shellfishing when fecal coliform counts go above 14 parts per hundred milliliters [14/100 ml]. Any closure, often widespread in some coastal States, are strictly enforced to protect the public health.

Under the technical guidelines adopted by the US Fish and Wildlife Service, States are urged to consider that 20% of the boats between 16' to 26' will have portable toilets, 50% of midsize boats between 26' to 40' and 100% of larger boats 40' and above will have holding tanks. These guidelines have been used to estimate the number of pumpout and dump stations needed in the coastal areas.

Now that the CVA program has funded new or improved boat pumpout and dump station installations, State health officials are able to revisit closed shellfish areas for possible opening for use. Several States have taken that step and have opened or kept open shellfish beds which had been closed for years, or were threatened with closure due to boating activity.

Since shellfishing can only be allowed in the cleanest waters, when any bed is opened this is perhaps the single greatest achievement of the goals in the Clean Vessel Act of 1992.

Two States open shellfishing beds

As a result of CVA funded pumpout stations and pumpout boats, the States of Maine and Rhode Island were able to open shellfish beds threatened with boat sewage contamination.

Maine - The coastal town of Freeport was concerned that under the ISSC standards they were probably going to need to close a very productive shellfish bed adjacent to a large mooring field in the town harbor. However, now that several pumpout stations are available thanks to recent CVA grants, the Freeport Department of Health became convinced to leave the bed open for shellfishing during 1996 and future years. Keeping that shellfish bed open means jobs in the local economy and has received a lot of good press.

Rhode Island - Great Salt Pond, located on Block Island, was designated as a "no discharge area" on June 1, 1993 but shellfishing was closed during the boating season. Starting on June 28, 1996, the RI Department of Environmental Management (DEM), announced that a 208 acre section in the north end of Great Salt Pond was reopened for year round shellfish harvesting for the first time in 13 years.

Block Island is a popular destination port for boaters and sailboat racers. On busy weekends, Great Salt Pond is host to over 2,500 transient boats—most anchored away from the marina pumpouts, with an average of 2 to 4 people sleeping aboard. For over a decade the levels of fecal coliform were so high that all shellfishing in the Pond was banned during the summer boating months of May through September, at a great commercial and recreational loss of access to the popular hard shell clam beds.

"The reopening of the Great Salt Pond is a direct result of positive actions the town has taken to reduce pollution, including the installation of marine pumpout facilities for boaters and approval of a no discharge area," said RI DEM Director Timothy Keeney.

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This first shellfish opening would not have been possible without the CVA funded purchase of a second pumpout boat for use during the 1996 summer.

Ironically, the Island's first pumpout boat (paid for by the Town before the CVA program had begun) was out of service and not used during the 1996 season. The State opened a section of the Great Salt Pond to shellfishing this summer for the first time in decades thanks to the measured lowering of coliform count as compared to previous years. Coliform counts in the opened north section have remained below the 14 parts per hundred milliliters count threshold for the past three summer seasons. While counts in the marina and mooring basin are above the shellfish limits they are much lower than prior to the no discharge designation.

Only with the CVA and no discharge enforcement, Block Island was able to open shellfishing in 1996 and hopefully every future summer.

Photo: Block Island's pumpout boat in action. The boat owner sits happily while the Island harbormaster gives his sailboat a free pump out.

(Photo courtesy of Edson International)

Restoration of shellfish beds planned by Gulf of Mexico Program—boat sewage targeted

The Gulf of Mexico Program has completed a study report entitled "The Shellfish Challenge Plan – Results of Strategic Assessment."

Strategic assessment is a process by which scientists and citizens can identify the cause of a problem, develop appropriate strategies to address the cause, and reach consensus on the most effective strategy to eliminate the problem. The information within the plan can now be effectively utilized by States and other concerned organizations for assessing their local environmental and economic needs as they relate to shellfish. Increasing Gulf shellfish beds available for safe harvesting by 10 percent is the goal of the plan.

"And dealing with overboard discharges from boats is one of our major tasks," said Dr. Fred Kopfler, Chief of Science and Technology for the Gulf program. "We need to get all the marinas to put in pumpouts. Financing is the key to do that, and the CVA program has the grant program we need."

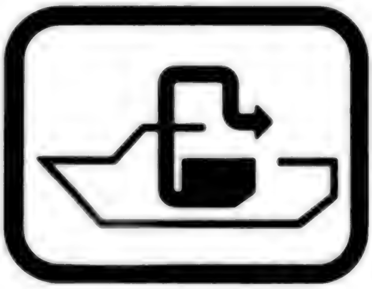
The Gulf of Mexico Program is a unique public and private partnership program that includes State agencies, business representatives, the private sector, and numerous Federal agencies. Its purpose is to develop and implement specific "non-regulatory" strategies aimed at protecting, enhancing and maintaining the health and productivity of the Gulf. "We view the Shellfish Challenge Plan as an important tool that can be used by State and local communities to improve the quality of our valuable shellfish growing waters and the overall health of the Gulf of Mexico," says Mr. Jim Giattina, Director of the Gulf of Mexico Program.

The development of the Gulf of Mexico Program's Shellfish Challenge Plan was a collaborative effort involving experts from State and local agencies and representatives from the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the Interstate Shellfish Sanitation Commission and the National Oceanic and Atmospheric Administration (NOAA). The Plan summarizes strategies to reduce pollution, increase shellfish habitat and improve shellfish management practices agreed upon by State and regional specialists and pollution experts.

In the next phase of the Shellfish Challenge, implementation planning projects will be conducted in several "best candidate" watersheds during the next two years which are aimed at improving water quality and shellfish production. The first planning project has begun in the Barataria-Terrebonne watershed in Louisiana. The Gulf of Mexico Program will also begin working with State and local agencies in the Mississippi Sound and Mobile Bay areas to support shellfish restoration efforts. Work with Texas and Florida will begin in the fall of 1997.

The Gulf of Mexico Program's challenges include some of the most pressing environmental problems in the region, including loss of important coastal habitat, inputs of excess nutrients and the introduction of foreign organisms and pathogens into Gulf waters.

Dr. Kopfler said, "We definitely need the help of the CVA pumpout grant program in each of the Gulf States. I shall be inviting the CVA coordinators in Texas, Louisiana, Mississippi, Alabama and Florida to play an important role in the Gulf of Mexico Program efforts for shellfish bed restoration and opening."



Chapter 6.

Public Education is Key to CVA Program Success

Introduction

One of the main provisions of the Clean Vessel Act of 1992 is the need for widespread public education programs. The boating public must understand the need for clean water and accept individual responsibility for preventing sewage contamination from their boating. Education is as important as pumpout hardware if the goals of the Act are to be realized.

The first step to learning a new behavior, like using pumpouts, is to become aware of the boat sewage problem and need for clean water. Once those are understood and accepted, the rest of the process become easier and the goals of the CVA can be achieved.

Fortunately, public education is done in most States, and has really taken off with good results. Nearly every State has developed pumpout education brochures, posters, newsletters and press targeting the public. But there are some notable highlights which can serve as models for other States to adopt. It is clear that the educational key has been turned on across America, and boaters are adopting clean boating practices by using pumpout and dump station services.

Positive public response to Louisiana pumpout campaign

Louisiana has had a successful pumpout educational campaign including production and distribution of brochures and sponges. The brochures gave information on the need for pumpouts and listed marina sewage facilities by address, locations and a map. There was a positive public response by the boaters.

Alabama moves water quality education into public schools

In 1996, Alabama launched a statewide educational program, including a poster, environmental boating brochures, and waterway guide, which all list locations of each pumpout station. Well developed environmental boating guides were distributed to teachers in grades K through 12 for use in all public schools in Alabama. Brochures are sent annually to all boaters with their operator licensing renewal applications assuring nearly complete exposure to clean water information.

Two States produce video programs for national use

Connecticut - A video was produced, primarily by CT Boating Division, for national distribution showing how existing marine toilets can be retrofitted to include holding tanks.

Each summer a trainer visits marinas and boat clubs, with video and national brochures, to answer pumpout questions and to give workshops to get word out to boaters.

Indiana - A nationally available PSA video on pumpouts has been produced by Indiana and a second one is in the final stages of completion. During January, 1997 Indiana hosted a multi-state workshop for both marina operators and pumpout manufacturers for a combined session on the CVA program and some one-stop shopping for pumpout equipment. Seven manufacturers provided information and exhibited equipment at the meeting. Personnel from several divisions of two States and the Fish and Wildlife Service were available to answer questions.

One result of Indiana's educational effort is that marina operators report an increase in the number of boaters asking if pumpouts are provided, or if the operators know where the closest pumpout is located. As public demand increases then marina owners are more interested in providing the service.

Maryland's 'how to' info and pumpout information reach thousands

The BOAT/US Clean Water Trust produced two educational brochures for Maryland: a pumpout location map and "how to pump out" brochure which explains the MSD laws. These were mailed to 50,000 boat owners with boats over 22'. The two brochures have since been consolidated into one document and are widely used.

Michigan uses boater guide to steer boats to pumpouts

Public information of the CVA and the pumpout grant program is contained in the 400,000 copies of the Michigan Boater's Guide distributed each year by the DNR. The popular guide contains aerial photographs of all the State's public marinas and is very popular with boaters. The free publication is distributed to marine owners, boaters, sheriff departments and tourist information centers Statewide.

Massachusetts marks the channels

The State of Massachusetts is using marked buoys at harbor entrances in an effort to direct people to pumpout facilities as they are returning to port after a day of fishing or cruising.

North Carolina brochures are popular

When North Carolina direct mailed pumpout guides to 16,454 owners of boats with cabins, it didn't realize how well the public would react.

For a second printing, the State enlisted the help of the Coast Guard, boat dealers, marina operators, tourist welcome centers and river keepers to distribute brochures about controlling marine sewage. Those brochures have been so popular that the State reports continuing requests for more copies to hand out as individual supplies run out.

Pumpout information available to millions on Internet Web pages

Recognizing that many boaters use home and work computers to access the Internet, several States have begun Web pages with information about using and finding pumpout and dump stations.

Florida has a very sophisticated Web site which shows each CVA funded pumpout station location. Site: **http://www.dep.state.fl.us/law/grants/cvawelcm.html**

Maryland's Department of Natural Resources Web site includes pumpout information. DNR reports that its 200 Web pages get about 20,000 hits per month via the Internet. Site: **http://www.gacc.com/dnr/**

Michigan's CVA program is also on the Internet where it can be reached by anyone with a computer, modem and Internet access. Site: **http://www.dnr.state.mi.us/www/bps/grants/fy96/catalog/cvabpg.html**

Oregon sent CVA word to nearly 200,000

Statewide, Oregon has published a Public and Private Marina Guide. As the first comprehensive marina guide for the State, it gives special focus on boat waste collection, CVA and other pollution control measures. 10,000 copies were direct mailed in 1996 to all 26'+ boat owners.

The Oregon State Marine Board's newsletter, delivered to all 190,000 boaters, included a section on CVA and water quality issues. Post publication surveys estimated that 80% read the information.

New York uses media to promote CVA awareness

The New York State Department of Environmental Conservation teamed with the New York Sea Grant to developed media public service announcements (PSA) for radio and TV use, with 250 copies distributed to stations throughout the coastal zone. The campaign theme increased public understanding of the impacts of boat waste and encouraged boaters to "bring it ashore" for proper disposal. "A good captain knows clean water is important for good health - and the future of boating. Remember ... waste has its place. Bring it ashore."

A nationwide satellite conference was presented to several hundred persons attending at 6 sites in New York and 42 sites in 26 other States on August 3, 1995.

All New York materials utilize the new standardized Federal pumpout symbol on all signage (as shown below) and PSA flyers. CVA funded posters, signs, awareness brochures, pumpout tip sheets and directories were mailed to approximately 900 marinas/boatyard Statewide and distributed at retail outlets and boat shows in 1996.

Signs and Kiosks promote value of clean water in South Carolina

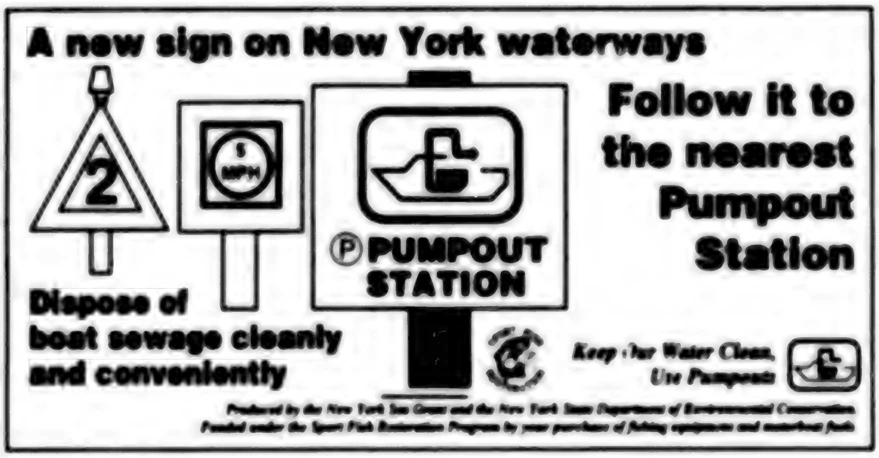
Ten informational kiosks were constructed and placed at boat landings and marinas along the South Carolina coast. These kiosks provide quality space for promoting the CVA program and other information to the boating and fishing public for many years to come.

Pumpout signs have been distributed to all marinas within the 8 county coastal zone that currently have a marina pumpout facility.

Posters and brochures encouraging the use of pumpouts were distributed to nearly 100,000 people at wildlife expositions around the state. These publications discuss the effects of boat sewage pollution on our health and environment, explain why pumpouts are effective and provide a list of marinas along the coast that provide this service.

Students from across SC, visiting the Marine Resources Center in Charleston, are introduced to the value of clean water through a "Marsh Classroom Adventure". Students take field trips into the marsh to learn life histories and habits of the organisms living there and the effects of boat sewage on this fragile environment.

More than 50 marinas, tackle shops, retail and seafood outlets along the South Carolina coast have volunteered to distribute CVA information to the boating public.


A new sign on New York waterways
2
5 MPH
ⓟ PUMPOUT STATION
Follow it to the nearest Pumpout Station
Dispose of boat sewage cleanly and conveniently
Keep Our Water Clean, Use Pumpouts
Produced by the New York Sea Grant and the New York State Department of Environmental Conservation.
Funded under the Sport Fish Restoration Program by your purchase of fishing equipment and motorboat fuels

Virginians walked the docks with pumpout

Virginia has mailed brochures explaining the need for pumpout use to all owners of documented boats who have a Virginia address, as well as to registered owners of larger boats.

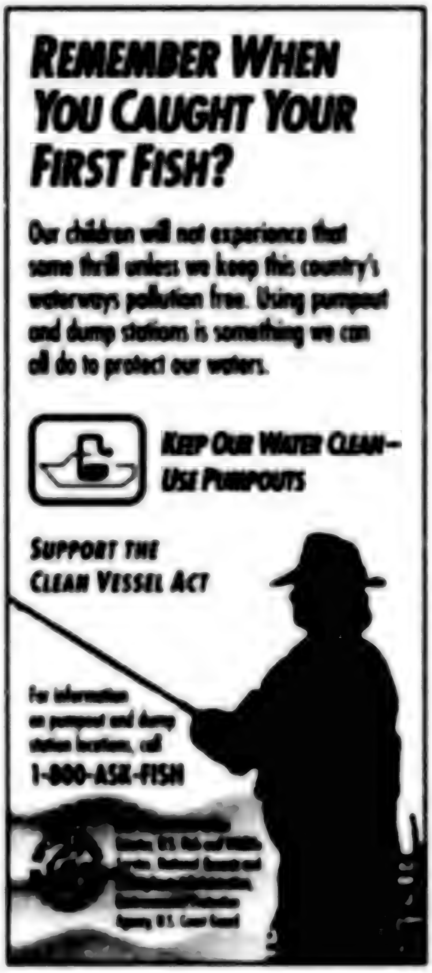
During the 1995 and 1996 summer boating seasons, the Virginia Department of Health partnered with the Hampton Roads Sanitation District Commission for an interesting hands on educational program in marinas. Six environmental health college students were hired by the Sanitation District, using USEPA near coastal waters funds, to visit high usage marinas in the Virginia Beach and Norfolk Counties.

They spent 10 hours per each Friday, Saturday and Sunday in the summer. They walked the docks and talked about the need for pumpout use to over 2,200 boaters, anglers, and marina operators. Using a portable pumpout unit, at the end of each chat the student demonstrated how it was done by giving free pumpouts to about 600 boaters. The idea was to show users that "it is not that ugly a job when using the right methods with good equipment."

As indicators of this program success, many people would ask the students back for repeat pumpouts, and the marinas visited seemed to give more maintenance and operational care to their own pumpout stations. At the end of the 1996 summer season, the marinas were surveyed and 100% want the students back next year. Virginia plans to expand the program into other counties next year and is hiring the students to educate people at the winter boat shows.

Dial 1-800-ASK-FISH

The US Fish and Wildlife Service established a national telephone hot line for the public to use to find the locations of pumpout and dump stations and to report any nonfunctional pumpouts in their States. Launched in 1996, the hot line began with the State of Florida pumpout list, and has been added to by other States as locations become available. The hot line is a simple, yet effective way to educate the public and to help boaters find their nearest pumpout station—just dial 1-800-ASK-FISH.



REMEMBER WHEN YOU CAUGHT YOUR FIRST FISH?

Our children will not experience that same thrill unless we keep this country's waterways pollution free. Using pumpout and dump stations is something we can all do to protect our waters.

KEEP OUR WATER CLEAN–
USE PUMPOUTS

SUPPORT THE
CLEAN VESSEL ACT

For information
on pumpout and dump
station locations, call
1-800-ASK-FISH

Chapter 7.

Attitudes Change for Cleaner Water

Introduction

One of the most common comments made by State CVA grant coordinators and marina operators is how well people have been reacting toward controlling boat sewage contamination with pumpouts. Every State reports significant increases in pumpout usage. But the addition of pumpout equipment is only part of the reason.

Boaters are increasingly changing their practices and switching to use of pumpouts. That change represents a fundamental change in attitude and a realization of wider custodianship of boating waters.

From CVA program, Florida Clean Marina effort changes attitudes and approach

In 1993, recognizing that the State government alone could not preserve Florida's waters, the Department of Environmental Protection decided to participate in the Federal Clean Vessel Act Program. After successfully obtaining a Federal grant, the Florida Clean Vessel Program launched its campaign to assist marinas in installing pumpout facilities by providing funds which covered up to 75% of the costs involved.

The program was expedited by developing internal policy, as opposed to rule making and legislation. Bureaucracy and "red tape" were kept to a minimum by the use of a simple application process which encouraged active participation by both public and private marinas. By participating, marinas were accepting the responsibility for assisting the boating public in doing their part to keep Florida's waters clean!

Concurrently with installing the necessary pumpout facilities, a massive education and awareness effort was required. By 1994, a marketing strategy was developed to promote environmental citizenship and change the "dilution is the solution" mind set to one of "pollution prevention". Brochures were mailed to all affected boaters, and public service announcements were distributed to television stations statewide throughout 1995 and 1996. Also during this period, presentations were made to the boating industry and civic organizations to further encourage the sense of ownership and responsibility for clean water.

One of the many benefits derived from the CVA program so far has been the partnerships developed among the marinas and the Florida Department of Environmental Protection. Many of these private marinas were initially skeptical of the program and claimed benefits. Based on telephone conversations with a number of participating marinas, they have experienced increased business as a result of adding pumpout service.

For example, **Halifax Harbor Marina** in Daytona Beach has experienced tremendous use of the pumpout service via their pumpout boat. They reported an initial use of over 9,000 gallons of sewage pumped in the first quarter of operation and have experienced a 25% increase for each quarter within the first year of operation. This seems to be typical for the program as a whole. The total number of pumpouts installed under Florida's CVA program has been 48, with 42 pending completion, and another 30 stations to be funded this upcoming year. While not all marinas have reported at this time, for those who have reported, the total number of boats served has been over 4,600 boats with a total of over 134,000 gallons of sewage pumped ashore and not discharged overboard.

After visiting a number of marinas, it became apparent that there was more than just the need for pumpouts. Marinas must be viewed from a holistic perspective which includes a cross-media, site-specific approach within the context of the Ecosystem Management Area where the marina is located. Florida officials have seen marinas that are living proof that clean environments through best management practices can translate into profitable operations. What was missing was a program that could promote the link between a clean environment and profitability in Florida.

A new program was developed, as a spin-off from the Clean Vessel Program pumpout effort, with the goal of a sustainable, healthy environment which promotes the use of Best Management Practices (BMPs) by marinas. Florida's "Clean Marina" program will benefit everyone: the marina, boater, and environment. It has been demonstrated that a clean environment is good for business because boaters value their waterways. This program will provide the opportunity for marinas to participate not only in better protection of the environment, but also, in increased potential profits. Additionally, the program will help further a strong environmental ethic among marinas and boaters, and encourage successful voluntary participation through partnerships with the marine industry and the boating public.

The Florida Clean Marina Program will consist of four interrelated components: education and awareness, incentive grants, recognition awards, and Clean Marina certification. Education and awareness will use marketing strategies such as brochures, technical bulletins, posters, Internet and presentations before marine industry associations and civic organizations. Incentive grants will provide support to marinas in adopting specific BMPs that result in a cleaner marina and cleaner environment. Recognition awards will recognize those marinas for incorporating best management practices in innovative ways resulting in demonstrated ecosystem benefits. Clean Marina Certification will provide a seal of approval for successfully meeting criteria that are beneficial for the ecosystem in which they are located.

The Clean Vessel Act has helped launch this Florida-wide Clean Marina program, which when combined with the new pumpout use, will help boaters and marina operators change their practices to result in cleaner boating waters for everyone.

Florida has a Web site for Clean Marina environmental information. Site: **http://www.dep.State.fl.us/law/clean-marinas**

National trade magazine endorses Clean Vessel Act

Soundings Trade Only magazine is widely recognized as one of the leading national, monthly publications for the marina and boating industry. —Editorial, May 1996

All those new pumpouts: Let's be sure we use them.

Times are a-changing.

There's been a greening going on among the people who build, sell and run around in boats. You and me, in other words.

Nowhere is that more apparent than with pumpouts. The number of pumpouts has increased significantly because of the Clean Vessel Act. The program has awarded some $30 million since 1992. For every $3 put up by the Feds, the States have provided $1.

But along with the money, it's been the cooperation between the Federal government, the States and the industry that has gotten the pumpouts built. Clean Vessel Act administrator Bob Pacific has done a good job of bringing all the parties to the table. No finger-pointing. No finger-wagging.

About 1,500 pumpouts have been built since the law was passed. Another 1,000 will be completed this year. And another 1,000 or so next year.

That's the good news for the environment. And it's good news for all of us who like to swim, fish or pick a few mussels.

What's nice about the Clean Vessel Act is that it benefits the people who pay the bill. You and me, again. That's not the way things generally work in Washington. The $40 million that will be paid out over the five years of the program comes from taxes on fishing equipment and powerboat fuel and import duties on boats and fishing gear.

The maximum fee that can be charged by pumpouts built with Federal funds is $5.

No one likes dirty water. And now we have more opportunity than ever to do something about it. The US Fish and Wildlife Service is in the midst of launching a major public awareness campaign to encourage boaters to use pumpouts. Its slogan is a simple one: Keep Our Water Clean - Use Pumpouts.

Let's all do our part.

(Reprinted with permission)

Connecticut's marina uses pumpout competition among staff

Cedar Island Marina received a CVA grant to expand its pumpout equipment at their fuel dock. Marina owner Jeff Shapiro said. "We charge $5.00 for a pumpout done by our dockhands, but it is free for our slip renters."

"As a staff incentive, at the end of the season each year I recognize the staff member who did the most pumpouts with a personalized 'Pumpout King Award' and his/her name added to the plaque hanging in the fuel dock office. I started this in 1989 at the suggestion of two dock boys who were competing to get the most pumpouts that summer. The winner that year is listed first, then the second dock hand returned in 1990 determined to win—and he did—so his name is second. They like the competition."

Asking every boat at the fuel dock to have a pumpout is part of the staff's written job description at Cedar Island Marina.

US Virgin Islands marina owners organize for clean water

Because of the beauty and sparkling clarity of the coastal waters in the Caribbean Sea, concern about the need for protecting the environment has evolved more slowly than in the States. Until the CVA program and its educational efforts were introduced boaters made few requests for the service. As a consequence there were no pumpouts in use in any marinas in the Caribbean.

One important spin-off benefit of the CVA program was that attitudes towards their stewardship of the coastal waters changed to the extent that the **Association of Marina Owners of the Virgin Islands** (AMOVI) was formed in 1996. AMOVI's goal is to work together to help marinas come into compliance with environmental regulations and to help resolve issues and problems that commonly affect their businesses.

Photo: Cedar Island Marina owner Jeff Shapiro holds his annual summer award listing the dockhand with highest number of pumpouts. Sign in fuel dock office window says "Pumpouts. You dump 'em, we pump 'em. 290 pumpouts and still flowing." The number is changed each week to reflect growing season total.

(Photo by Neil Ross)

Nantucket sees improved customer attitude to pumpouts

Over the years **Nantucket Boat Basin** manager George Bassett Jr has "found a huge change in the boater's attitude towards pumpouts. In the early years there was little demand, and I had to strongly urge it be done. Now demand is high and they now expect it. If one boat is being pumped, the surrounding boats request a pumpout right then, which causes delays in our appointment system."

Iowa's marinas call for CVA program

Iowa has not participated in the CVA grant program yet, but will submit proposals if the CVA program is extended. Iowa had been reluctant to participate in the CVA for two reasons. Iowa doesn't have a lot of large water bodies. The Mississippi and Missouri Rivers are their primary waters for large boats. Like many State staffs, their workload was already more than they could handle efficiently.

However, as the CVA program progressed in neighboring States, marinas in Iowa saw their counterparts across the rivers getting assistance for pumpouts, and they started calling for applications. Pressure built from the marina interest and Iowa reconsidered joining in the CVA program. The State is now actively contacting their marinas and will soon be asking for proposal submissions, based on the hope that the CVA will be continued and that Iowa wants to be ready for the next round.

This success story is really one of how helpful the CVA program is in the eyes of marina managers, and is a grass roots call for program expansion and extension.

Public marina in State of Washington convinces boaters to use pumpouts

Cap Sante Boat Haven is a publicly owned and operated facility located in the heart of the Town of Anacortes, WA, off the Strait of Juan de Fuca. The marina has 1,150 slips for boats from 17' to 100' long, with the average vessel at 36'. Two pumpout stations, one fixed and the other mobile, and two portable toilet dump stations are available for boater use.

To encourage pumpout use, the Boat Haven dropped the service fee. Also to stimulate use, the marina made itself a no-discharge facility, even though the bay is not a Federally approved no-discharge area yet. A 30 gallon mobile "honey wagon" pumpout on a cart brings the pumpout to the boats. "About half the people use the mobile unit. But surprisingly others find it more convenient to take their boat to the cart," said Dale Fowler, Harbormaster. "In 1995, we collected over 5,000 gallons of sewage which went directly into the Town sewer system for treatment."

"We had the use of a prototype pumpout barge for one year, and it worked so well we bought one with CVA help in late 1996. The barge system offers us the highest flexibility and ease of use for the customer. The barge is anchored between two piles at the mouth of the harbor to make it convenient and easy to use. A self serve pumpout and our second dump station are on it.

We received a CVA pumpout grant through the State, and expect to have the barge in service by spring 1997," said Fowler. "It will have a 3,500 gallon capacity and should need emptying twice a year."

New York sewer plant operators now accept boat septage

Similar to other coastal States, the sewage facility operators have needed special attention to deal with concerns and reluctance on handling boat waste. The most common fear expressed first by the operators is usually about the volume and nature of chemicals used to disinfect and deodorize holding tanks.

In New York a special effort was made to inform and educate the sewage handling community regarding the nature of the waste that would be collected and ultimately require treatment as a result of the program. The program helped gain wide understanding and septage acceptance by the public sewage treatment operators across the State.

Actual experience in New York, and most other coastal States, has shown virtually no sewer plant operational problems with boat septage and any chemicals used.

Chapter 8.

Pumpout Grant Program Promotes Partnering

Introduction

No State can implement an effective movement towards clean water and pumpout use without the cooperation of other agencies, businesses, organizations, schools and citizens. One of the hallmark successes of the CVA program has been the widespread partnering in every State and territory.

In most States and regions, partners include the marina trade associations, boating organizations and environmental groups, along with a range of State and Federal agencies. The amount of cooperation in the development and implementation of this pumpout grant program is truly remarkable. It is a testament to a well thought out law, clear guidance, absolute need, defined audiences, and effective leadership at all levels.

Olympic partnering success in Georgia

Four pumpouts stations were constructed in the Savannah/Chatham County area and provided service in the Wassaw Estuary site of the 1996 US Olympic venue in Georgia. This Olympic CVA project was truly a partnership success story.

Within a six week period from the time Georgia initiated the construction phase of the CVA program, four private marinas had operating pumpouts for the Olympics sailing program. The tremendous success and speed of this achievement was due to the overwhelming cooperation of the partner marinas, pumpout manufacturers, municipal sanitary sewage system operators, US Fish and Wildlife Service and the Georgia Department of Natural Resources.

New York DEC allies with Sea Grant

New York State Department of Environmental Conservation established a partnering project with the State University of New York's Sea Grant Institute which developed a statewide CVA information and education program. The interest groups identified and targeted by the program included boaters, marinas, coastal zone municipalities, septic waste haulers, and sewage treatment plant operators. Various brochures were printed and distributed to marinas, and several CVA conferences and meetings attended.

Posters, banners and CVA pumpout information was distributed to the boating public attending the New York City Boat Show each January, and other smaller shows over the past two years.

A special effort was made to inform and educate the sewage handling community regarding the nature of the waste that would be collected and would ultimately require treatment as a result of the program.

California partners with own funded pumpout program

California's Department of Boating and Waterways lists 58 public marinas with a combined berthing and mooring capacity of 23,185 vessels. With California's public marinas facing budget constraints, the State recognized that some additional funding was needed to help the marinas satisfy the 25% matching CVA fund requirement. In 1994, Cal Boating successfully sponsored partnering legislation that created its own pumpout grant program to help these publicly owned marinas. To date approximately $60,000 in State matching funds have been used for installation of pumpout facilities.

While the Department lacks the legal authority to grant any State funds to the private sector, 46% of the Federal CVA funds have gone to private marinas in California.

St. Croix River between Minnesota and Wisconsin is regional success

The Clean Vessel Act has been a catalyst in bringing together multiple Federal, state, local, and private entities to meet a common objective: the protection of the St. Croix River, one of the cleanest river systems in the United States.

Location and description - The **St. Croix National Scenic Riverway** was established in 1968 as one of the original eight rivers under the National Wild and Scenic Rivers System. It flows through some of the most scenic and least developed land in the north central part of the country. The water is exceptionally pristine, and the home of two endangered mussel species. Bald eagles are often spotted along the corridor.

The river forms much of the shared boundary between the northern portions of **Minnesota** and **Wisconsin**. It is managed through cooperative efforts of the National Park Service (NPS), the Minnesota and Wisconsin Departments of Natural Resources (DNRs), and local units of government. Several parks are located along the corridor: Minnesota's Afton State Park, Wisconsin's Kinnickinnic State Park, two large county parks, and Carpenter Nature Center.

Recreational usage - The area is an extremely popular destination for all types of recreational boaters which are attracted by the clear, unpolluted water, extensive sand beaches, unspoiled beauty, and relatively large water surface area. A portion of the riverway lies on the eastern edge of the Minneapolis/St. Paul metro area and is within an hour's drive of its approximately 2.4 million residents.

Boat camping is popular at the parks along the river, as well as at several of the larger islands that are managed by the NPS. Large numbers of boaters overnight on sand bars found throughout the river or on beaches. Due to its location and appeal, the river has some of the highest densities of recreational boating per surface area found in either Minnesota or Wisconsin.

Water contamination concerns - Because of the heavy usage, the NPS was concerned about the amount of sewage from recreational boaters that was going into the St. Croix River. Human waste was often pumped from full boats into the river or deposited directly on the islands and sand bars. The islands are prone to seasonal flooding, so this human waste was then washed into the river.

In the meantime, the Minnesota DNR had conducted its inland Clean Vessel Act (CVA) survey and had concluded that the St. Croix River was an area in need of additional and upgraded pumpout facilities at its marinas.

Photo: Typical boat activity and traffic on St. Croix River shows why sewage is a concern.

(Photo supplied by Minnesota DNR)

Agency cooperation leads to CVA solution - The National Park Service contacted the Minnesota DNR to see if they could work together through the CVA process to improve the sanitation situation. In answer, the Minnesota DNR developed a proposal in conjunction with the NPS and a private vendor located on the St. Croix. The goal of the proposal was to minimize the amount of human waste going into the river by creating convenient disposal opportunities for boaters with on-board facilities and to provide sanitary facilities for island users.

In implementation of the proposal, a pumpout barge was purchased under the CVA using matching funds from the Minnesota DNR. This barge is now operating on the river, providing mobile pumpout service to boaters camping on the islands and beaches. In addition, the NPS has floating toilet stations on the river and portable toilets on the larger islands. These are also serviced by the barge. The barge is operated by the private vendor, who supplies the needed personnel, maintenance, and push vessel. In return, the vendor is compensated through pumpout fees.

Additionally, several pumpouts either have been, or soon will be, upgraded at private marinas along the river. These were done with the marinas providing the required matching funds.

At the marina nearest the area of heavy boating and camping use, a coin-operated system was installed making the pumpout/dumpout service available 24 hours a day.

Free dumpouts are being provided at all facilities that are upgraded. This was a suggestion from one of the local marina operators who found that owners of small boats didn't seem willing to pay the pumping fee, since they could simply dump their wastes. After the free dumpout policy was begun, use increased substantially. Consequently, this concept has been expanded across Minnesota as a condition for participation in the CVA program.

Continuing plans for improvement - The Wisconsin DNR has been impressed by the efforts to date and has offered to provide additional assistance for waste control on the St. Croix. They have submitted a proposal to install additional island toilets, along with providing and upgrading additional floating toilets in areas managed by the NPS. The Wisconsin DNR will arrange for the needed CVA matching funds by making state matching funds available through the sponsorship of a local unit of government.

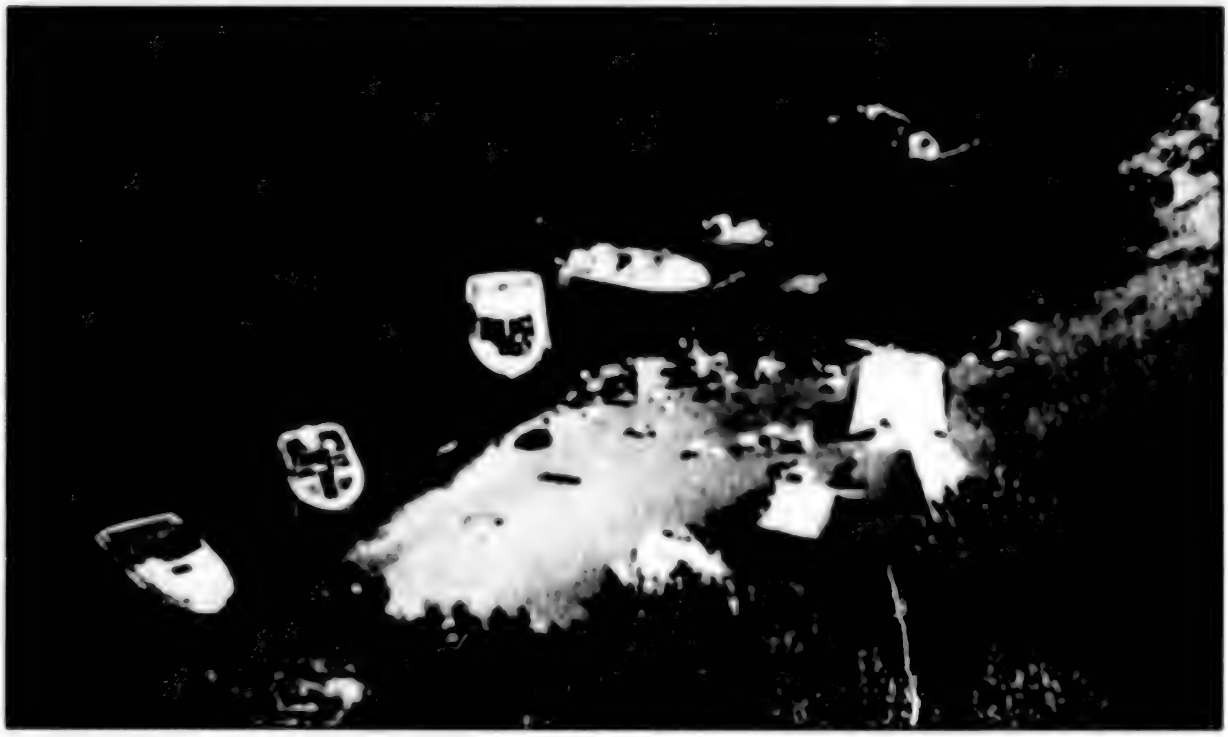


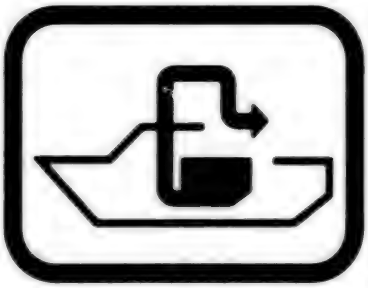
Photo: Island camping by boat. Where does the sewage go?

(Photo supplied by Minnesota DNR)

Clean water goal enhanced by additional legal protection - One of the common goals of the agencies and citizen groups interested in the protection of the St. Croix River has been to have the area designated as a "no discharge area." Such designations are made by the US Environmental Protection Agency (EPA). As a condition for making this designation, the EPA requires that adequate pumpout facilities be available. After the CVA improvements were made, the Minnesota DNR, Minnesota Pollution Control Agency, and the Wisconsin DNR jointly petitioned the EPA for the designation. The petition was approved and consequently, the entire river is now a "no discharge area."

A vision for the future - The US Fish and Wildlife Service (USFWS), which administers the CVA, would like to see the success on the St. Croix River serve as the first step in removing boater's effluent from the major Mid-west river systems. If the CVA is continued for another five years, the USFWS is optimistic that similar progress will be made further down river on the Mississippi system and on the Ohio and Illinois Rivers. This relatively inexpensive program has made, and can continue to make, a significant impact on the cleanliness of our nation's water. It is an important piece of the overall clean water effort that is being addressed on many fronts.

Partners involved in the St. Croix CVA action - The success of the CVA effort on the St. Croix Riverway is a result of the joint efforts of several entities under the coordination of the USFWS. The contributions of the Minnesota and Wisconsin DNRs, the NPS, private marina owners, and local units of government were all critical. It is exciting to see the suggestions of those who work at the grassroots level incorporated as a part of the solution. This kind of respect for both workers in the private and public sector will yield the best solutions for the management and preservation of our nation's natural treasures.



Illinois, Indiana and Ohio form multi-State program

Indiana has developed one of the most successful CVA program along the Ohio River. Prior to the availability of CVA funds, there were no pumpouts available on the river; now there are 7 on the Indiana side. The States of Illinois and Ohio are joining with Indiana in a multi-State effort to offer convenient pumpouts throughout their common length of the Ohio River.

New Jersey partners help officials apply for no discharge

Members of the New Jersey CVA Steering Committee and Advisory Group have assisted State and local officials in preparing no discharge applications to the US EPA. The degree of cooperation among State and local agencies, marine trade association, Sea Grant programs, other educational institutions, and private industry has been unprecedented. This is a success story which could have long term implications.

Partners for Casco Bay, Maine

Maine has partnered with the **Friends of Casco Bay** in purchasing a pumpout boat for use around Casco Bay. The bay is the single most populated boat area in the State. The Friends of Casco Bay's 21-foot pumpout boat, named Baykeeper II, began service in August 1995. The pumpout program in Casco Bay helps reduce marine sewage pollution gallon by gallon. This first vessel pumpout boat in Maine provides a convenient and easy way for boaters to properly discharge their sewage holding tanks. Fitted with a below-deck 300-gallon holding tank, a vacuum pump and 25 feet of hose, the boat can arrive alongside a vessel wherever it may be and quickly empty its holding tank. The cost is $5 and boat owners need not be present during their pumpout appointments.

The program goes beyond pumping out boat holding tanks. Its an educational campaign that targets the boating community, a group that should understand intuitively that we can't degrade an economic and recreational resource - Casco Bay.

Among other things, this boat received donated cellular phone and air time, and is getting more pumpout requests this way than through the marina radio on channel 9.

Partnering with the Friends of Casco Bay are other contributing sponsors, including, Adams Marine Center, West Marine, Spring Point Marina, Mercury Marine, Patagonia, Mariner Outboards, Handy Boat, Maine Coastal Programs, Seacoast Ocean Services, Maine Department of Economic & Community Development, and US Fish and Wildlife Service.

Maryland develops wide educational partnering program

Maryland conducted a "Dock Knocks" outreach program run by volunteers from Save Our Streams during summer months. This included a "Bay Bucks" campaign, with industry sponsors, a 20 question Quiz, and a contest for a $10,000 grand prize drawing during the 1995 Annapolis Sailboat Show. The "Bay Bucks" aspect of the contest encouraged boaters to talk about the usually unmentionable subject of sewage. The **Maryland Marine Trade Association** and other industries donated coupons for the "Bay Bucks" exchange. The trade association estimated somewhere between $20,000 to $30,000 of free media coverage as a result of this campaign.

The BOAT/US Clean Water Trust produced two pumpout brochures for Maryland as partners in the educational campaign.

The American Boat and Yacht Council (ABYC) developed a booklet "Sewage Holding Tank Systems for Recreational Boats". The publication gives boaters and boatyard personnel technical guidance on how to retrofit a boat with a holding tank. ABYC also conducted a 1996 series of 10 workshops on this subject. Another 10 workshops are planned for 1997.

The Maryland Department of the Environment (MDE) has been educating local sewage treatment plant operators in the proper handling of boat sewage. MDE is also currently undertaking an education initiative directed at encouraging boaters to use environmentally friendly additives to holding tanks.

Texas confederation for Clear Lake is educational success

An intense effort has been made to introduce pumpout stations and to educate boaters on why and how to use them. Educational workshops, brochures and hands-on demonstrations have increased boater use of pumpouts. This effort was the result of partnering between the Clear Lake Marina Association, Maritime Sanitation (a private corporation), the Texas General Land Office, the Galveston Bay Estuary Program, the Galveston Bay Foundation, Texas Parks & Wildlife Department, and the Texas A&M Sea Grant College Program.

Private marina copartners with Rhode Island Town

Ram Point Marina used a CVA grant to install a pumpout system and to connect to the Town of South Kingstown sewer line. The private marina developed a simple but excellent partnership with the Town in which the municipal treatment plant accepts boat sewage at no charge in exchange for which Ram Point Marina gives pumpouts to the public for free.

NOAA charts list pumpout station locations

All navigational charts of the United States produced by the **National Oceanic and Atmospheric Administration** (NOAA) will show the location of each pumpout station available to boaters as the charts are updated. As more pumpout stations are confirmed by the US Fish and Wildlife Service, they will be added by NOAA.

New trade association in Virgin Islands joins with CVA program

The **Marina Owners of the Virgin Islands** (AMOVI) was formed in 1996 as a direct result of the CVA educational program. Joining with the VI Department of Planning & Natural Resources, VI Office of Coastal Zone Management, and University of VI Sea Grant Marine Advisory Service, the association brought marina owners together to help plan the CVA grant program. In the process, the industry leaders became enthusiastic partners and organized AMOVI to give more formal support.

Interestingly, as one of the most popular sites for charter boat tourism, not one marina in the US Virgin Islands had any pumpouts available until the CVA program was launched. Now the majority of AMOVI marinas members have applied for pumpout grants to begin offering the service for the first time.

National CVA education/outreach program partnership

The national CVA outreach and education program was finalized by the US Fish and Wildlife Service on December 20, 1994 with the primary goal of motivating boaters and anglers to use pumpout and dump stations.

Numerous objectives were established under this plan and began with the production of educational materials. These materials include a national brochure which details the effects of overboard disposal of boater sewage, the goals of the CVA and what boaters can do to help keep our waters clean.

Other materials include bumper stickers, lapel pin cards (which offer a brief description of the program on a 3"x6" card attached to a lapel pin), brochures directed at boaters and marina operators, outdoor signage, a CVA exhibit, public service announcements in print, television and radio formats (the radio PSA features the musician Jimmy Buffett), and press kits.

NMMA helps promote CVA program and pumpout use - The outreach efforts have been aimed directly at the primary audience, which is boaters, through its partnership with the National Marine Manufacturers Association

(NMMA) international boat shows in Miami and Chicago. The first exhibit occurred in February, 1996 at the Miami International Boat Show through a news conference announcing the kickoff of the outreach program. It featured the Acting Director of the US Fish and Wildlife Service as well as representatives from the US Coast Guard, the National Oceanic and Atmospheric Administration and other CVA partners (see list of partners below).

The NMMA continued partnering with the US Fish and Wildlife Service outreach team at the International Marine Trades Exhibit and Conference (IMTEC) in September, 1996—the world's largest indoor trade show for the boating industry. By being located in the same area on the show floor, attendees were provided with the opportunity to visit the CVA and manufacturers' booths, creating greater understanding of the benefits of using pumpouts.

CVA pumpout symbol and slogan standardized - One of the major successes for the US Fish and Wildlife Service was to use the CVA partnering network to develop and accept a standardized pumpout symbol and slogan. The process, long and involving international standards setting procedures, was completed with the adoption and publication in the Federal Register of a simple descriptive symbol (shown) and slogan: "keep our water clean - use pumpouts".

1996 Summer Olympics promote CVA - A second major outreach event occurred in conjunction with the 1996 Summer Olympics Sailing Venue in Savannah, Georgia. The Service worked with manufacturers and the Georgia Department of Natural Resources to fund and install four additional pumpout stations and a pumpout boat from Jacksonville, Florida to accommodate the sewage from the increased number of boats in the area throughout the Olympics. The outreach team received nationwide coverage from CNN, local coverage from ABC and NBC affiliates in the Savannah area, and numerous newspaper and other print media when it held a press conference aboard the Schooner America which sailed up the Savannah River bringing the Olympic Torch into Georgia.

NMMA continues CVA promotion - This public education partnership will continue into 1997 through CVA program presence at other NMMA boat shows, coordinating efforts nationwide and further extending the **Keep Our Water Clean - Use Pumpouts** message to the boating public.

A release of public service announcements and the 1997 grant awards is set for early 1997 at NMMA's Miami International Boat Show in order to reach boaters before the summer boating season. The awareness campaign has been expanded by partnering with the US Coast Guard Auxiliary and the National Safety council's **Safe Boating Week Campaign** to reach more boaters.

National partners for CVA education

US Coast Guard
US Environmental Protection Agency
US Fish and Wildlife Service
US National Oceanic and Atmospheric Administration
The American Boat and Yacht Council
American League of Anglers and Boaters
American Recreation Coalition
American Sportfishing Association © Sportfishing Promotion Council
BOAT/US Clean Water Trust
Hydro Agri North America, Inc. © Odorlos
International Association of Fish and Wildlife Agencies
International Council of Marine Industry Associations
Italian Marine Industry Association
Jacksonville Towing and Salvage Corp
Marine Retailers Association of America
Marine Environmental Education Foundation
National Marine Manufacturers Association
Marina Operators Association of America
Schooner America
Sea Grant © MarinaNet
States Organization for Boating Access
plus 18 Pumpout Manufacturers.

Manufacturers take CVA pumpout symbol/slogan pledge

Other major accomplishment of the CVA national office includes the voluntary agreement from all 18 pumpout equipment manufacturers to display the internationally accepted pumpout symbol on each new unit produced. With 100% success, the US Fish and Wildlife Service has received signed pledges (below) from manufacturers of pumpout and dump equipment and pumpout boat makers to adopt the use of the national slogan "keep our water clean - use pumpouts" and the newly standardized national symbol.

All the manufactures began using the slogan and symbol on all their products and literature in 1996. This unusual partnering activity demonstrates the wide support the CVA program has across America.

Each of the manufacturers signed the following agreement.

National CVA Pledge

> The (company name) agrees to place on each pumpout and dump station produced by this company the Clean Vessel Act pumpout symbol, instructions on how to use the machine, and where possible, the slogan "KEEP OUR WATER CLEAN - USE PUMPOUTS".
>
> I understand that placing the symbol, instructions and slogan on pumpout and dump stations will greatly assist boaters in locating and using pumpout and dump stations. The symbol will provide an easily recognizable logo to point out the location of pumpouts. The slogan will provide a message to boaters about the need to pump out their boat sewage.
>
> The instructions will provide boaters with necessary information to easily operate the pumpout or dump station. The instructions will include information on how to operate the machine, how to connect the coupling to the boat, how to clean up after pumping out, e.g., rolling up the hose and tidying up, and lastly, instructions for getting help when there is a problem with the pumpout or dump station. There should be a statement to contact the marina operator for assistance, or preferably, a telephone number to call if the unit is not operational.

18 of 18 pumpout/pumpout boat manufacturers pledged as of December 12, 1996:

Airvac, Inc., Tampa, FL
Alcar Environmental, Wellfleet, MA
American Eagle Mfg., LaConner, WA
Boston Whaler, Inc., Edgewater, FL
C.B. Boatworks, Peru, ME
Captain Clean, Annapolis, MD
Coastal Technologies, Inc., Virginia Beach, VA
Edson International, New Bedford, MA
EMP Industries, St. Petersburg, FL
Envirovac, Inc., Rockford, IL
Exstar International Corp., Wilmington, NC
Far Products, Inc., Fremont, OH
Keco, Inc., San Diego, CA
Marine Boatbuilders Co.,Warwick, RI
Oberdorfer Pumps, Syracuse, NY
SeaLand Technology, Inc., Big Prairie, OH
Vacumax Limited, Elmira, Ontario, Canada
Waubaushene Machine & Welding, Waubaushene, Ontario, Canada

Keep Our Water Clean—Use Pumpouts

(Photo supplied by SeaLand Technology)

Chapter 9.

Cost Effective Pumpout Installations Result in Savings

Introduction

As the pumpout grant program was implemented a number of cost efficiencies became clear. New equipment operated faster and better than the older technology it replaced. Private and public marinas were able to afford pumpout stations for the first time at only 25% of the cost. Boaters found that a $5.00 cost per pumpout was not expensive and worth having cleaner water. Manufacturers of pumpout equipment found ways to improve their technology, reduce their costs, and make their selling prices more competitive now that the market expanded. Marina managers are reporting being able to attract new customers to their docks because of the availability and convenience of pumpout service.

Oregon and Connecticut marinas sell more fuel and supplies as more boats come to pumpout docks

Oregon's first pumpout station, in a private marina built with CVA funds, was at **Rocky Point Marina**. It received more than 50 uses in the first month of operation. With the pumpout located on the fuel dock, it actually brought in extra sales in fuel and the store.

Connecticut - Deep River Marina was the 1991 winner of the US Department of the Interior's highest national award, "Take Pride in America" for helping restock Atlantic salmon in the Connecticut River.

Owners Doug and Karen VanDyke take pride in their environmental improvements and beautiful grounds. They were the first in the area to install a pumpout at their own expense in 1989. A unique, home-made, land-side outside dump station is also available free to those with portable toilets.

"At first we charged $10 for the service but no one was using it," said the VanDykes. "So we decided it was time to make a commitment to cleaning up the environment by offering free pumpout service to all noncommercial vessels using the Connecticut River."

"Now boats come here from many other marinas to get the free pumpout, and most buy fuel at our dock while here. We ask that each boat buy a pumpout thru-hull adapter, from us, which allows quick connect to our evacuation hose. Even those not buying fuel when they get pumped out must feel guilty because most return later for fuel, or do become seasonal customers," said VanDyke. "Last summer we kept 6,000 gallons of sewage out of the river."

In 1996 Deep River Marina received a federal CVA grant to help maintain and operate its pumpout system.

Mississippi marina covers costs, encourages pumpouts and gets new MSD retrofit business

The 115 slip **Broadwater Beach Marina**, in Biloxi, Mississippi, installed a pumpout station with CVA funds, then wondered out how to cover its operational and maintenance costs while encouraging pumpout use at the same time.

To do that the marina adds a $5.00 per month pumpout fee to the cost of each berth, yielding $800 per month. Now more and more boaters are using the pumpout since it is already paid for.

Unexpectedly the marina has found a new type of boat maintenance work has resulted. Since last year, 3 to 4 large boats per month are retrofitted by replacing the old toilet system with a new holding tank system typically costing from $5,000 to $10,000 per vessel.

This teaches two lessons: Owners of older boats are willing to spend money to promote clean water. And, as the Broadwater Beach Marina owners have found, pumpouts are good for both the environment and the boat repair business.

New Jersey marina's free pumpouts attract new customers

During the 1995 fall haulout season, **Green Cove Marina** offered "free 1996 season pumpouts to all boats that signed up for a 12-month 1996 contract for winter on-land storage and summer slip rentals. In the first week two new winter storage customers signed on which paid for the promotion program," noted Davidson. "Most boat owners want to use the pumpout service regularly, and our free promotion is raising interest."

Located in the town of Brick off Barnegat Bay, Green Cove Marina was concerned about water quality around the facility. In response to the call for boat sewage control, Green Cove owner Alan Davidson said, "We mounted an electric 40 gallon-per-minute diaphragm pump on our own trailer (cost $1,000), added a 225-gallon holding tank for a total cost of $6,300, and had our own movable pumpout station. We keep it at the fuel dock for convenience of use, but we can go to boats in the slips."

"Marina staff does the pumping out, and our customers like this," Davidson added. "The number of pumpouts increases each year."

A $2,600 CVA pumpout grant helped defray the pumpout cost. Because the system is portable, no coastal permit was needed, saving another $1,000. Income from the $5.00 pumpout fee from 500 pumpouts was $1,700. It costs an estimated $1,900 for labor and $50 for electricity. Green Cove's owner, staff, and customers are proud of their clean marina efforts, which, according to Davidson, "have helped attract about 5% to 8% more customers who seek an environmentally friendly marina." The new slip income is estimated at $27,000.

"If anyone asks, I would recommend buying a ready-made portable pumpout trailer instead of making your own."

"There is a visible improvement in the water quality. It appears cleaner, and there are more crabs, fish, and ducks seen around our dock," claimed Mike Petix, the marina environmental manager. "We think the pumpouts have really helped."

(Photo by Neil Ross)

Photo: Green Cove Marina owner Davidson hands hose to Mike Petix from home-made pumpout trailer they can take to the boats.

Westrec, the world's largest marina chain finds pumpouts good for business

By all measures, the combined Westrec Marinas is big—with a total storage capacity of 17,000 boats, and with facilities located in 12 States—it is the world's largest full service marina chain. They are located on 3 coasts, a Great Lake, 3 man-made lakes, 2 major rivers, and several islands. Eleven are on fresh waterbodies and 25 on tidal salt water. It is estimated that Westrec Marinas provide boating access to 505,000 individuals each season, not counting the additional public access provided by their parks, hotels, restaurants, etc.

"The best return on investment came from installing pumpouts and upgrading boat hull power wash areas," said Westrec's President William Anderson. "We got the best publicity and good will from installing recycling bins and garbage cans with lids to control litter."

"Westrec has spent over $200,000 to install pumpouts in all of its marinas. Of the total cost, 10% went for engineering designs and permits, 50% to buy the equipment, and 40% for construction and installation. Thus far we have received one Clean Vessel Act grant totaling $8,000 to install one pumpout and have applied for grants to expand several others. We were way ahead of the curve and installed pumpouts in our marinas long before the CVA grant program was available."

"There were three basic reasons why Westrec was motivated to make environmental changes in all their marinas.

1. Economics - Westrec either had to clean up or be shut down some activities in Southern Florida. It was less costly than they expected, and was a good investment which ultimately attracted more customers to their businesses.

2. Create a clean marina company image and identity - They find customers are very enthusiastic about the cleaner facilities, mowed green grass, and no litter.

3. Comply with the law and regulations - They've seen a noticeable water quality improvement. So we know we are doing something right."

Anderson added, "Our customers want us to be environmentally clean. In 1995 our main office in California received about 5,000 survey cards from customers throughout Westrec's chain. These cards come directly to the President, and I read most of them personally. Nearly 20% include statements about environmental issues."

The three most common environmental themes customers mention are:

- People want to be part of a marina that is doing something good for the environment.
- They like clean water—just like we do.
- They are willing to pay for clean marinas.

And Westrec generally is a price leader in its market areas.

In the future "Westrec expects to maintain its leadership role in marina environmental awareness and regulatory compliance," Anderson stated. "The bottom line is that clean marinas are good for our business." Creating safe, enjoyable recreational experiences can't be done if the water is dirty.

"Nationwide, the States need to be more consistent in enforcing the marina and boating regulations. Enforcement must be applied to everyone—to all marina facilities equally." But Westrec Marinas are not waiting—they choose to lead the way.

Bill Anderson concluded, "It's the duty of all marina owners to preserve this precious natural resource to the best of our ability. At the same time, we will be preserving our business as well. Marinas and clean water go hand in hand."

Imagine getting a pumpout from the best employee of this Ohio marina!

With parts of the Great Lakes designated no discharge for boat sewage, Sandusky located **Battery Park Marina** bought turn-key docks in 1985, which included a diaphragm pumpout station on the fuel dock. The pumpout line was hooked directly to the city sewers. Later that service expanded with the addition of a portable toilet dump station in 1990 which cost $400. In 1991 the main pumpout was replaced with a progressing cavity type pump system which cost $2,450.

"At first we charged everybody $5.00 per pumpout, but in 1989 made it free for customers and $5 for others," Battery Park General Manager Carl Wolf said. "Over the years, the number of pumpouts increased dramatically as more and more boaters decided to not discharge overboard. Boat holding tanks range in size from 3 gallons, many with 20 gallons, up to 50 gallon capacity. We now range between 50 to 100 pumpouts per week in season. In 1995 we did over 1,000 pumpouts with an estimated 10,000 gallons of sewage going for treatment—not into the Lake."

The annual maintenance cost of the pumpout system in 1995 was $20, and generated an income of $1,500 from other boats visiting our dock."

"Customers want one-stop for both fuel and pumpout. Pumping out at the fuel dock does increase our fuel sales volume, estimated 4% in 1995, or $11,000 more," said Wolf. "And our policy about Y-valves is simple—no pumping over the side, period!"

A second pumpout station was added to the fuel dock in 1996 which cost $6,000, including design, permit and installation. That cost was subsidized with a $4,350 CVA grant from Ohio.

Battery Park's fuel dock is 10' wide by 150' long and can service up to 12 boats on both sides. The second pumpout means they can service every boat without having to relocate it near the original pump. On average it takes about 7 minutes to pump out and rinse a typical 20 gallon holding tank.

"Most customers are willing to pump fuel, but not their sewage. Our dock staff do all the pumpouts, and like the job. Boaters are so happy with our staffed service that they tip very well," said Wolf. "Using that as an incentive to summer staff, I offer the pumpout station job mainly to the returning dock hand with the best work record from the previous year." Imagine getting pumped out by the best employee of the marina!"

Photo: Top marina summer staff eagerly service customers at Battery Park's fuel and pumpout dock where tips are biggest.

(Photo supplied by Battery Park Marina)

Metering sewage cuts cost for Rhode Island full service marina/boatyard

Doing the right thing is not always as easy as it looks or should be. In this case, the 220 slip **Brewer's Cove Haven Marina** applied for and received a CVA grant through the State of Rhode Island to install a two-station pumpout system with direct connection into the Town of Barrington's sewer line.

Once the grant had been approved, General Manager Mike Keyworth applied for a local permit to expand his sewer connection with the new boat pumpout. But, since the town sends all its sewage to the plant in the neighboring City of East Providence, it is bound by their regulations. Apparently an ordinance exists to prohibit septic haulers from loading their plant with waste from towns outside of that city.

East Providence authorities asked whether all the boats that could use it were from either East Providence or Barrington. Keyworth replied honestly that the boaters came from many towns, several States and included frequent transient visitors from along the Atlantic Coast. On that basis, the City denied Cove Haven's request to tie in.

After months of discussions, and with help from the Rhode Island DEM, the City modified its ordinance to exempt boat sewage from that restriction. That done, the marina could tie in.

But, the East Providence officials estimated that the new pumpouts would significantly increase the sewage flow from the marina and projected a big increase in the annual sewer bill. Keyworth argued that the volume of boat effluent would be relatively small and limited to the boating season (May through September). He explained that since the normal sewer bill was based on the volume of town water purchased, even with the pumpout included, the marina's sewer volume would be less than that currently charged. A large percentage of the water bought by this full-service marina was used outdoors, mostly to hose down boats in slips, to keep the swimming pool full, and to water landscape plantings.

East Providence challenged Cove Haven to either prove exactly what the sewer volume would be or pay the city's higher cost estimate.

With the City engineer's approval, a low-volume sewage flow meter and manhole were installed to measure 100% of the marina's sewage output. The cost of that installation was $6,800. In a very smart move, Keyworth insisted that the meter measure the entire marina, not just the pumpout station as the town had first suggested.

Once the pumpout stations and meter were installed, the town began to read the meter every month. Based on the readings, i.e., actual marina sewage flow volumes, the 1995 sewer bill decreased by a total of $2,603. The overall cost to construct and install the sewage flow meter and manhole was $6,800 in 1994. Based on cost savings alone due to the metering, this cost would be paid off in 2.3 years. However, the installation cost of the meter was covered in the marinas's CVA grant for the pumpout station with the 25% match contributed by the State of Rhode Island Department of Environmental Management.

Slip customers at Cove Haven, like others with slips in the five-State Brewer chain, receive a credit card size magnetic card to operate the do-it-yourself pumpout station free. There is a refundable $50 deposit for the card, which allows all free pumpouts in any one or all 15 marinas in the coastal chain. Non-slip customers pay $5.00 per pumpout.

By offering pumpout service to all the boats in Bullocks Cove, "that which is pumped out is not pumped into the waters of the bay," Keyworth said. "Our boaters receive a clear message that we are doing the environmental right thing, and they should do it as well."

Brewer's Cove Haven Marina is thus saving a significant annual cost after challenging and proving that its annual sewage production—from a 220-slip full-service marina with two pumpout stations—was much lower than previously estimated and billed in past years.

The main benefit of this project—for the people in the City of East Providence, Town of Barrington, and State of Rhode Island—is that Cove Haven Marina (and the three other Brewer yacht yards around Narragansett Bay) is helping to improve the water quality.

Mike Keyworth added, "We need clean water for people to have good boating on the bay." And, as President of the Rhode Island Marine Trade Association, he is a big advocate of the CVA grant program and of pumpout use.

Chapter 10.

No Discharge Areas Spread

Introduction

The Clean Water Act of 1972 authorized the Federal designation by USEPA of no discharge areas based on a State's request. The State application must demonstrate that there is water quality degradation from boat sewage, that there are sufficient numbers of pumpout stations available to service all the boats in that area, and that there is reason to predict that water quality and public use will benefit from a no discharge designation.

At present, EPA, with the States, have designated a total of 36 no discharge areas in the nation. In addition, all inland waters, which are not used for interstate navigation or which border two or more States, became no discharge when the Act took force. Michigan had their coastal waters declared no discharge.

However creating a national clean water program and realizing boater compliance with no discharge are two different results. Most boats, because of the lack of pumpout stations, had no alternative but to either not use their onboard MSD III toilets with holding tanks or use a Y-valve to discharge through the hull.

Once a State receives a no discharge area, it must educate the public and enforce that Y-valves and through hulls aren't used.

Since 1994 seven no discharge areas have been approved by the EPA, and 5 in Texas, Minnesota, and Massachusetts are as a result of pumpouts added with CVA grant funds. More States and Territories indicate that they are considering no discharge applications for boating areas, with the number of applications expected to increase rapidly over the next few years as more pumpouts go into service.

When adequate public education has been coupled with consistent enforcement, marina operators and harbormasters report that boaters generally comply with no discharge.

The Clean Vessel Act doesn't link pumpout grants to creation of no discharge areas. But, because they are being designated as a result of new pumpout and dump stations, it recognizes that water quality is improving.

Massachusetts leads the nation

The Bay State had 5 Federally approved "no discharge areas" between 1992 and 1995, and has 2 applications pending EPA approval, plus 3 more communities which have begun the Federal application process. Of the approved no discharge areas, Westport Harbor, Wellfleet Harbor and Waquoit Bay are a result of CVA funding pumpouts, according to USEPA Region 1, Boston.

This means that Massachusetts has more Federally approved no discharge areas, with more coming, than any other State as a direct result of the CVA program.

Clear Lake is first salt water area to go no discharge in Texas

The Galveston Bay system is home to over 8,000 boats, with 5,600 of those on Clear Lake. Before the CVA program there was only one pumpout in the Bay. Boaters in Clear Lake had to make a 37 mile trip offshore to legally discharge their holding tanks. Now with CVA grants, Galveston Bay has 9 pumpout stations with 8 of them on Clear Lake.

In the spring of 1996, Clear Lake was designated a no discharge area by the State of Texas and the USEPA as a result of the CVA funded pumpouts.

Newly designated no discharge river in Minnesota and Wisconsin

One of the joint goals of the Minnesota DNR and Pollution Control Agency and the Wisconsin DNR was to have enough pumpouts on the St. Croix River to be able to have the entire river designated as a no discharge area. This was accomplished on April 5, 1996, thanks to the CVA program grants, when the EPA approved the St. Croix River as a no discharge area.

California plans no discharge harbors

San Mateo County Harbor District operates the **Pillar Point** and **Oyster Point Marinas**. These two are home-port to about 950 vessels. Pillar Point Harbor, which is on the Pacific Ocean, is also a popular destination spot for trailerable sport fishing boats during the summer salmon season. Oyster Point Harbor is on San Francisco Bay.

Both marinas have had pumpout services available in the past, however these had been thought of as incidental services and were not given high priority. Now, the harbor district has become more aware of environmental concerns and is working toward establishment of both harbors as "no discharge areas".

To prepare for that designation, the Harbor District is currently involved in adding more CVA funded pumpout and dump stations at both locations. In addition, a fully equipped pumpout vessel has been ordered and will be shared by both facilities. Local ordinances have been passed to implement the no discharge program as soon as equipment installations are completed.

Since clean boating involves more than than just proper sewage disposal, the district is also implementing one of the first oil contaminated bilge water collection programs in the county. This pilot program utilizes oil-water separators to remove the oil from the bilge water for eventual recycling.

With all Indiana inland lakes no discharge, State eyes coastal waters

Since all inland lakes in Indiana are no discharge, the State is moving toward having dump and pumpout stations installed at every marina where appropriate. According to a State rule, as of January 1996, any marina with 5 or more slips must accommodate on board sewage facilities.

The CVA funding is helping marinas comply with this rule.

The Indiana DNR is working towards establishing the State's coastal waterway, along Lake Michigan, as a no discharge area. This is only possible because of the additional CVA funded pumpout stations.

Rhode Island plans Statewide no discharge—a coastal first

With the success of the Block Island "no discharge" program, and the expansion of pumpout service at largely private marinas in every coastal city, Rhode Island announced in 1996 its intention to apply to EPA for Statewide "no discharge" designation during 1997.

While the State estimates that 100% of the boats with toilets in coastal waters now have pumpout service in every boating harbor, it also knows that more pumpout stations are needed once full no discharge is approved.

The CVA program has made this request possible, and, if approved, will make the Ocean State the first in the nation to ban discharge in all its coastal bays, rivers and territorial waters.

New Jersey builds CVA success

Because of the number and location of pumpout and dump stations approved under the CVA program, the New Jersey Department of Environmental Protection received preliminary no discharge designation approval by the EPA for the Manasquan River. It is one of the State's most heavily trafficked water bodies.

Two more no discharge applications have been submitted for the Navesink-Shrewsbury Rivers and the Shark River.

Barnegat Bay, recently given National Estuary status, is being considered for a no discharge application.

Caribbean might have no discharge areas

With Puerto Rico and US Virgin Islands moving ahead with installing pumpout service in the major marinas with CVA funding, there is long term interest for going all the way with no discharge designation in the coastal waters.

While in the very early stages of discussion, the islanders recognize just how important clean water is to their tourist economy.

Appendix A.

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Appendix B.

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